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OUR LEPROSY PROBLEM

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There is an alarming indifference on the part of our people with regard to leprosy which has already become one of our major public health problems. In this article the author provides much information regarding this dread disease and makes a plea for immediate action to control and prevent its spread.

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MOST of the diseases of man are preventable. Man has within him defensive power to resist infection and disease, and carelessness, indifference and ignorance are largely responsible for our sickness and suffering. Infectious diseases result from the interplay of two factors, namely, micro-organisms and parasites on the one hand, and the resisting power of the body on the other hand. We should, therefore, not merely make provisions to keep infection away but at the same time must make a sustained effort to develop adequate power of resistance by maintaining a high standard of general health. Vigilance is the price of health, and because man is loath to pay this price, disease prevails in this world.

Leprosy is one of the chronic infectious diseases which has existed in the world from ancient times largely because of man's ignorance and careless habits of living. Leprosy does not kill but maims and deforms by degrees and ultimately moulds the sufferer into a fearful form. The severer forms of the disease, however, are fortunately less common in India. In most cases leprosy is milder and causes more mental than physical suffering, so much so, that the patient feels like dying for fear of the great social stigma attached to the disease. But death rarely comes, and we find that the mortality rate in leprosy of a country is little higher than its general mortality rate. When, however, the disease is advanced, the physical efficiency of the patient suffers, and he becomes a burden to himself and others of the community. Even

his parents, friends and relatives shun him and he is often left alone to brave this unkind world.

Leprosy has been prevalent in our country for many thousands of years. There is a mention of the disease in *Rig-Veda* which was compiled about six thousand years ago. *Susruta Sanhita* was compiled about 2,500 years ago and in this great book the Susruta has described the cause, mode of infection, forms of the disease, and its treatment very elaborately. Although modern ideas about the disease differ in some ways from those of our ancient physicians there is no doubt that they knew a great deal about leprosy.

Throughout these past centuries many thousands of people in our country have suffered from leprosy, have left or been turned out of their homes, have gone on pilgrimage to holy places like Vaidyanathdham, Puri, Benares and Badrinarayan in search of physical and spiritual relief. But the much-sought-of relief never came. Instead, their miseries multiplied beyond measure, and their own doors being closed against them they were compelled to gain a living by begging. In some temples and holy places religious-minded people sometimes provided them with food and shelter but a vast majority of them remained unprovided and uncared for and were compelled to eke out their existence in great misery and suffering.

A few centuries ago in mediaeval times leprosy was common in Europe. The leper, who was not permitted to come out of his home unless dressed in special clothes to indicate his diseased condition, had to ring bells to draw the attention of the passers-by, and it was even a custom to read burial service over him to declare his civic death. Thousands of leper houses were built in many countries of Europe to care for and keep them separate from the healthy population. It is possible that in a number of cases the adoption of these measures might have been harsh and unnecessarily stringent, but one should remember that in those days in Europe people had no scientific knowledge as science in modern sense was not yet born. As a result leprosy has become almost non-existent in Europe as a whole and has become confined to tropical and sub-tropical countries, and the heaviest incidence at the present time is seen in Africa, India, South China and parts of South America. It is now largely a tropical disease although formerly it was not so. A few scattered focii of leprosy, however, are still in Russia, Spain, Portugal and other countries in the Mediterranean area.

Leprosy is commonly held to be incurable and supposed to be inherited, and a dreadful fatalism has grown up in regard to it. Some well-meaning but misguided persons have looked upon leprosy as the just wages of sin. These pious, well-intentioned and sometimes influential personages failed to consider the innocent victims of the disease, such as the children infected by

their parents. But even if leprosy were the just reward of sin society can not allow the punishment to take its own course, for when one is infected and goes uncared for it may be that the community as a whole will suffer, and even those who escape the disease have to provide ultimately for the care of the infectious and the crippled among them. So we are paying to-day for our mistaken attitude of yesterday. With this distorted public attitude towards leprosy in our country it must be evident that more than medical care is needed to bring the disease under control. Before its victims could be cared for, they must be found out. Before they could be found out, our attitude toward the disease must be changed, prejudices broken down, and misconceptions dispelled. Patients themselves have to be made to believe that they can get well before they can be persuaded to leave the seclusion of their homes to allow themselves to be treated. It is not yet recognised by the people that leprosy treated early can be checked.

A campaign directed against an acute disease presents certain difficulties which can more or less easily be got under control as there are recognised methods of immunisation of the general public by innoculation and vaccination. There are no social problems involved. In contrast, health workers are faced with a much harder job in their effort to control a chronic communicable disease like leprosy as there has not been discovered yet any method of immunisation against the disease and, what is more important, leprosy has traditionally carried implications of stigma and disgrace, and as a consequence any discussion of leprosy in public is practically tabooed.

Throughout the past ages the person with leprosy has been the most despised in the world and been looked upon as the victim of greatest divine displeasure. Whenever a word of utmost horror and loathing is to be shouted at anybody the word 'Leper' is most spitefully and frequently used. Not only the innocent victim but his forefathers also are loaded with reproach. Partly owing to this traditional attitude of the community towards the person with leprosy and partly to the notion that once a person acquires leprosy remains always so, the problem of leprosy, though one of the major public health problems of India, has not so far attracted as much public notice as its importance demands. We are living in an age when the major problems in public health requiring the aid of science for their solution are well along the road and the time for indulging in vague superstitious beliefs and prejudices regarding the causation and spread of disease is long past. And as for leprosy, we have enough knowledge available to us to bring about its control provided the people of the country concerned give up their traditional beliefs and prejudices that have grown around the disease in the course of centuries and be prepared to work along organised lines of proved value. The history of decrease

of leprosy in Western Europe in the middle ages is well-known to the students of social history of the West. At the present time, in Norway they have been able to reduce their total number of lepers from 2,858 to as low a number as 90, or from 2 to 0.3 per mille only in the short space of about 70 years by adopting a widespread scientific but humane system of control even though leprosy had been prevalent in that country for over a thousand years. If these and other countries in the past and at present have been able to control the disease either partially or completely, is there any reason why we cannot do the same in our country by adopting adequate measures similar to those of other countries but modified to suit our temperament and economic conditions ?

Leprosy workers, in the course of their duties, are confronted with many interesting questions by the people. Some of these questions touch the root of the problem and any attempt to successfully control the disease in our country depends largely on a satisfactory answer to these questions. Fortunately, scientific workers in leprosy have placed enough knowledge about the disease at our disposal to answer the questions in a way which will satisfy all but the sceptics. I propose to deal with these questions before I deal with the need for a new outlook and a definite policy in leprosy.

I. Is Leprosy a Hereditary Disease ? If not, How does it Spread ?—From ancient times the idea that leprosy is an infectious and hereditary disease was held practically in all countries. But these views were repeatedly challenged in the nineteenth century and several National and International Bodies, such as The Committee of the Royal College of Physicians of London, (1862), The Indian Leprosy Commission, (1890), The International Leprosy Conferences (Berlin, 1897, Bergen, 1909, Strasbourg, 1923, Cairo, 1938), League of Nations' Leprosy Commission, (Bangkok, 1930), Indian Leprosy Conference, (Calcutta, 1933) and Inter-Governmental Conference of Far Eastern Countries on Rural Hygiene, (1937), have reported on the matter.

The findings of these various bodies are unanimous that leprosy is not hereditary but infectious, that it spreads chiefly, if not entirely, by direct contact and that leprosy can be controlled only by isolation of infectious cases, particularly from children and young persons, the isolation measures, being augmented by treatment, propaganda and welfare activities of various kinds.

Similarly, a close scientific investigation in recent years in India have brought out the following facts about leprosy :—(1) *A child born of infectious leper parent and removed at birth practically never develops leprosy.* This proves conclusively that leprosy is not a hereditary disease. (2) Children so born but not separated from an infectious parent develop leprosy in about 40 to 60 per cent of cases, although it may be many years before the disease manifests itself.

(3) An adult similarly exposed to infection, for example, the wife of a leper husband and vice versa, develops the disease comparatively rarely—in about 5 to 10 per cent of cases only. This proves that the adults are either partially or completely immune. (4) The severity of the disease is influenced markedly by the age at which infection is acquired and the persons infected early in life are more likely to contract the disease in a more serious infectious form than those infected later in life. (5) The disease appears also to be influenced by closeness of contact. Children and young persons remaining in intimate contact with an infectious patient develop leprosy more easily than others.

These facts are fundamental and clearly indicate that the most vital factor in the control of leprosy is the prevention of contact between the infectious patients and normal persons.

II. Is Leprosy a Curable Disease?—Although there is no rapidly effective treatment for leprosy, like that of quinine for malaria, or arsenic for syphilis, the cure of leprosy by modern scientific treatment is an increasingly important fact. The word 'cure' is used in the clinical sense, as in tuberculosis, and not in the pathological one of elimination of the last germ from the body but that the patient is free from active infection and able to resume normal life without being a menace to others. In order to have best results treatment should be instituted as early as possible.

Most of the International and National bodies mentioned above have also reported on the curability of leprosy and the importance of treatment. It is not necessary to quote from all of them but I quote the relevant portions from the findings of the League of Nations' Leprosy Commission, 1930, which are almost typical of the recommendations of other bodies. The findings are :—1. There is no reliable system of prophylaxis without treatment and it is generally accepted that the earlier the treatment is instituted in a case of leprosy the better are the results. 2. Leprosy resembles tuberculosis in being, in certain stages, a contagious but curable disease; curable at least in the sense that bacteriological examination becomes negative and other active signs disappear and remain absent permanently or for an undetermined period. 3. The prophylaxis of leprosy may be achieved by a system of medical, educative and legislative measures. It should provide for isolation and treatment of infectious cases and particularly for the treatment of early cases in clinics and dispensaries. With regard to the efficacy of treatment, I may quote the medical statistical figures from the Annual Reports of the Mission to Lepers. In going through the following figures one must keep in mind that the patients provided for by the Mission to Lepers are mostly in advanced stages of the disease, and consequently the results are not as satisfactory as they should have been if the patients were in the early stages of the disease.

(A) In-Patients

	1937	1938	1940
Inmates under treatment at end of year ...	7,432	7,893	7,696
Inmates who received treatment for 3 months and upwards	9,549	9,507	10,181
Much improved	2,520	2,921	2,861
Slightly improved	2,605	2,252	2,586
Cases arrested without deformity ...	768	748	1,092
Cases discharged without deformity	554	514	842
Cases arrested with deformity	381	420	596
Cases discharged with deformity	122	136	169

(B) Out-Patients

Number of out-patients treated	10,444	8,039	5,934
Cases improved	1,417	1,145	1,306
Cases arrested or become symptom-free ...	230	110	371

Besides the leprosy in-patient institutions there are about two thousand out-patient clinics in India treating several thousand patients. Under the peculiar conditions of an out-door clinic the results of treatment cannot be as satisfactory as in in-patient institutions. Even so, the results are not as bad as are imagined. The reports of the Premananda Leper Dispensaries, Calcutta, show the following results :

	Maniktola		Kalighat	
Patients	1939	1940	1939	1940
New admission	905	741	260	281
Number attending for treatment ...	1,605	1,688	604	613
Disease arrested	71	75	39	36
Much improved	301	344	115	162
Slightly improved	197	232	81	146
Stationary	60	261	58	124

Leprosy manifests itself in two forms, namely, infective and non-infective. The non-infective cases react to treatment far more favourably than the infective cases. Fortunately, the number of non-infective cases in our country exceeds the number of infective cases in the proportion of 4 : 1 and the establishment of an optimum number of out-patient clinics has an important place in any scheme of leprosy control. But it should be recognised that if such clinics are going to be mere treatment centres their utility is very much restricted and they can do little in controlling the spread of leprosy.

III.—How Can the Spread of Leprosy be Prevented?—In answering the previous two questions the main facts about the nature of the disease and the results of treatment with its limitations have been discussed and the broad

principles of leprosy control have been stated. The various Leprosy Conferences and Commissions mentioned above have also considered this question and reported on the matter. But just two quotations are sufficient for our purpose. The Report of the Indian Leprosy Conference, 1933, says:—"We consider that leprosy is an infectious disease and that the most important means of controlling leprosy must be the prevention of contact between infectious cases and healthy people. In India, on account of the large number of infectious cases and small financial resources available compulsory isolation is impossible. The only possibility is voluntary isolation. This could be arranged only for a limited number of cases in institutions. The majority should be encouraged to adopt isolation in their own homes or villages. This it may be possible to secure in time by suitable propaganda among patients, their relatives and the general public. The creation of an informed public opinion on the subject is probably the most important requirement for the control of leprosy."

The above statement attempted to outline certain methods of development of anti-leprosy work suitable to the present economic and social conditions of our country and the Conference therefore recommended as follows:— 1. The formation of Provincial and District Leprosy Boards and the appointment of Provincial and District Leprosy Officers in the highly endemic areas of India. 2. The arrangement of much improved training of medical workers in leprosy. 3. The development of the work of special leprosy clinics along the lines adopted in good tuberculosis clinics, the work to include propaganda with a view to prevention among the patients, and the patients' relatives home visitation, examination of contacts etc. 4. The provision of facilities for the treatment of leprosy in general hospitals and dispensaries. 5. The development of increased accommodation in in-patient institutions for leprosy in some provinces, for example, Bengal. 6. The establishment of voluntary isolation colonies. These colonies may be of two types (i) small colonies in connection with villages or groups of villages and locally supported, and (ii) larger colonies catering for larger areas. 7. The use of institutions as far as possible for infective cases of leprosy and not for non-infective cases as is sometimes done. 8. The taking of special steps to detect and keep under observation and treatment cases of leprosy in children by systematic examination of school children in endemic areas and by other such methods. 9. The non-infective cases among school children and employees in offices should not be expelled or dismissed provided they remain under expert medical observation and treatment, and periodical certificates of non-infectivity are produced. 10. Establishment of farm colonies for discharged patients from in-patient institutions who are likely to relapse on return to the bad conditions of living in their homes and villages.

As regards the principles of leprosy control, the Report of the Fourth International Conference on Leprosy, (1938), suggests: (a) Early detection by (i) periodical examination of contacts of infective cases; (ii) periodical examination of children of school-going age; (iii) detection of cases in dispensaries and hospitals; (iv) notification of cases by medical men, school teachers, village headmen etc., and (v) leprosy surveys. (b) Isolation of infective cases in institutions, villages or homes; isolation to be as humane as possible and near to the patients' homes and to be voluntary or compulsory according to the conditions of the country. It is suggested that in countries where isolation is voluntary, health authorities might be empowered to compel the isolation of any case which is considered a special menace to public health. Home and village isolation are considered as very poor substitutes for institutional isolation. (c) Regular systematic observation of non-isolated cases with treatment of suitable case. And (d) the removal of children from birth.

This report emphasises the paramount importance of the prevention of infection of children, and of proper medical supervision of children already infected. The readers should be able to detect the similarity of the recommendations of this International Conference and those of the Indian Leprosy Conference and be able to appreciate the leading part taken by our leprosy workers who represented India in the Cairo Conference.

IV. Is There any Lepers Act in India?—If so, what are its main provisions? Is the Lepers Act adequate enough for control of leprosy in our country? If not, how should it be altered to meet the present conditions? We have a Lepers Act in India which was formulated in 1898 and subsequently amended in 1920. But its scope is limited and it has rarely been used. The question of legislation bearing on the leprosy problem has been discussed elaborately in the Report of the Committee of the Central Advisory Board of Health, Government of India, on Leprosy and its control in India. Extracts from this Report bearing on the questions are given below.

The question of legislative action to control leprosy in India was seriously considered by the Government of India and by the Provincial Governments between the years 1880 and 1900 when much correspondence on the matter was passed between the Secretary of State for India, the Government of India and the Provincial Governments and a special Leprosy Commission was appointed. But this was not a Government of India Commission. It was organised in 1890 by the National Leprosy Fund of Great Britain and consisted of nominees of that Fund and certain official nominees of the Government of India, and it was concerned mainly with technical problems about the transmission of leprosy, etc., which were then much under discussion.

This consideration of the problem led to the passing of the Lepers Act of 1898. This Act deals with only a few aspects of the leprosy problem, namely, the beggar with leprosy, persons who have leprosy preparing for sale or selling food, drink, drugs or clothing, taking of drinking water from public sources, bathing or washing clothes in public wells or tanks, and their use of public vehicles or following certain occupations. The other legislative measure of the Central Government affecting leprosy is the Railway Act which prohibits a leper from travelling by train except under certain precautions.

Provincial legislation with regard to leprosy is contained in the Local Self-Government Act. In practice legislation is confined mainly to urban areas. It can be said that the provisions of the Acts, whether Central or Provincial, are rarely enforced. The powers vary in different provinces and include one or more of the following provisions :—(1) The notification of the cases of leprosy; (2) the removal to hospital of the patient when he is living under conditions likely to favour the spread of infection or when he is uncared for; (3) the disinfection of infected articles and buildings; (4) the prevention of the letting of infected buildings without disinfection; (5) prohibition of the use of public conveyances by patients except when provision is made for their disinfection; (6) prohibition of the doing of certain acts and the following of certain occupations by patients, and (7) power of entry into, inspection of, and the carrying out of the necessary measures in houses suspected to harbour patients suffering from notifiable diseases.

In certain provinces the Municipal Acts contain other provisions also, such as the power to prohibit patients from attending school, prevention of minors suffering from infective diseases from attending school, power to destroy huts and other materials harbouring infection and restriction on the use of public libraries by patients. In Bengal, for instance, the areas in which leprosy is a notifiable disease are the municipalities, and the Acts and sections dealing with the control of notifiable infectious diseases are (i) Bengal Municipal Act, 1932, sections 376 to 392, and (ii) Calcutta Municipal Act, 1923, sections 435 to 447.

One may now ask if the present legislation in India is satisfactory and to what extent it is enforced. In answer to this question it may be pointed out that the Lepers Act, 1898, subsequently amended in 1920, is a measure which appears to be based mainly on considerations of public sentiment and is limited in scope from the standpoint of disease control and does not touch the root of the problem, namely, close continued contact between infective cases and children and young people. Moreover, the application of the measure was confined merely to a few towns but leprosy is largely a disease of the rural areas.

With regard to the powers of the local authorities under local Self-Government Acts, it may be observed that of all these Acts it is only in Bengal and Madras that legal powers for dealing with leprosy are considered adequate. But these powers have rarely, if ever, been used even in these provinces where leprosy is much more common than in the other provinces of India and where public health consciousness is said to be more in evidence. The reasons for this lag are obvious. Firstly, the local authorities are either ignorant of these provisions of law or they do not realise that these provisions can be applied to leprosy. Secondly, the application of these provisions involves the establishment and maintenance of an institution for isolation of infective cases who would remain infective throughout life or for a very long time. Most of the municipalities have no such provision. Thirdly, the powers provided by the Acts are permissive and not mandatory. There are no similar legal provisions for dealing with leprosy in rural areas of India except in Madras.

It must now be clear that there is a need for a comprehensive Lepers Act. As the existing legal provisions are inadequate it is necessary to formulate a comprehensive Lepers Act in order to minimise the public danger of infection. We do not want any such Act to be merely a decorative one but one that will be scientific, reasonable, and truly adequate and practical. Such an Act should be based, as recommended by the Leprosy Committee of the Central Board of Health, on the following principles :—(1) The disease should be notifiable but notification should be confidential, and confined to cases who are infective. The present legislation for the notification is to a large extent a dead letter. (2) Legislation should provide power to isolate infective cases which are a danger to the community. For paupers who are suffering from leprosy, however, legal power should apply to all cases. (3) A patient compulsorily isolated outside his own home should be maintained at public expense. (4) When a pauper suffering from leprosy is removed to an asylum under legal powers, the complete cost of his maintenance in the asylum should be met by the administrative authority applying the Act. (5) Legislation should include powers for the Health Officers to examine cases who are suspected to be in an infective condition. (6) Legal powers regarding the occupation of patients with leprosy detailed in the present Lepers Act shall be retained but for infective cases only. (7) The powers of arrest and removal of a person who appears to be a pauper suffering from leprosy should be entrusted to the Health authorities and the services of the Police called only when difficulty arises. (8) Legal power should be provided whereby a person who, after being committed to an asylum absconds, can be committed to a Leper Jail by the order of a Magistrate.

V. What is the Extent of the Leprosy Problem in India?—It is

roughly estimated thst there are about ten lacs of lepers in India, but fortunately, all of these cases are not infective; only about a quarter of them, namely, about two and a half lacs are infective and need isolation. But in the whole of India there is provision for isolation of only about 14,000 lepers. That means we have to multiply this provision by at least twenty times. The extent of leprosy differs in different provinces. In Bengal, for instance, leprosy is one of the common causes of sickness and suffering in the villages and it is a growing menace in cities, towns and in the industrial areas. It is roughly estimated that there are about two and a half lacs of leprosy patients in Bengal. Out of these, roughly 50,000 are infective and these are a source of public danger and the remaining two lacs are non-infective and of little or no public danger. Although leprosy is found in all sections of the people, it is commonly associated with poverty, overcrowding, under-feeding and insanitary conditions. These conditions, however, are not essential for transmission.

VI. WHAT TREATMENT FACILITIES ARE THERE IN INDIA ?—It is natural that one should want to know what facilities we have for treating leprosy patients and if they are adequate to meet our requirements. There are about ninety-five leprosy institutions in India working under various agencies and having an accommodation for not more than 14,000 patients. Of these various bodies, the Mission to Lepers is the largest and best single body working for the last 68 years and providing for no less than 10,000 patients or 71.4 per cent of the total number of patients residing in all the in-patient leprosy institutions in India. In addition to these in-patient institutions, there are about two-thousand out-patient clinics. But these facilities are hardly enough to meet our needs. To illustrate, there are in Bengal about 140 clinics which can provide out-door treatment for fifteen thousand patients only. These are managed by local bodies, like district boards and municipalities, Asansol Mines Board of Health, some industrial concerns and private bodies. There are four leper asylums under the management of the Mission to Lepers and one leper hospital at Gobra, 24 Paraganas, under the management of a Board of Trustees. These asylums have at present provisions for 550 in-patients only and the leper hospital for only 175.

But Bengal's need is much greater. So far as the provision for in-patients is concerned we have to make adequate arrangements for most of the 50,000 infective patients and some of the crippled and deformed among the non-infective cases. That means we have to multiply our present provisions at least by 70. Regarding the out-patient clinics we will require many times more to provide for the treatable cases. The institutional system, whether hospitals or asylums, is extremely costly. The Mission to Lepers spends about eight lacs of rupees annually for providing for about 8,000

patients. Though it is expensive to care for lepers it is, nevertheless, the duty of the State and the public to provide for these unfortunate ones and strive to prevent the spread of this dread disease.

Some of us have a notion that the cause of the extremely low number of in-patients in the leprosy institutions is due to lack of a demand on the part of the leprosy patients. But the reports of these institutions tell a different story. The Medical Notes on the work of the Mission to Lepers during 1937 reads: "Years ago the problem of selection of patients for admission did not arise at all acutely for there was accommodation in most of the homes for most, if not all, of the patients applying. Inspite of the increase in the size and numbers of the leper homes practically all are full and refusing admission to many patients." Similarly, the Annual Report of the Albert Victor Hospital, Gobra, 24 Paraganas, for 1940, observes: "The hospital had always been constantly congested during the period. The institution needs further increased accommodation. The total nnmber of beds in the hospital at present is 175 and at the utmost its capacity could be extended to 200 beds only by providing all possible extra beds in the various wards. The large number of lepers found roaming about in the streets of the city constitute a source of great danger to public health but it is not possible for the hospital to provide admission even for the most needy among them. Owing to the very limited accommodation in the hospital, admission had ordinarily been refused to about 14. 5 patients on an average every month excluding those on the waiting list of the institution."

VII. Need for a New Outlook.—The public should recognise that leprosy has a history and a background, and intimate connections with our social habits, traditional beliefs and customs. We should also recognise that the person with leprosy suffers from a very depressing psychological effect. Society shuns him and he feels a sense of shame and humiliation and he becomes a crushed personality. Owing to this reason such persons with leprosy react to the attitude of society in two ways. Some of these patients who have some social status conceal the disease as long as they can and thus retard treatment, prolong their own sufferings and expose the community to danger, though secretly. There are others who become so callous to their own condition that they freely expose their wounds and deformed limbs in crowded parts of cities and towns to attract the notice of the passers-by and trade upon their charitable feelings. The first need, therefore, is that we should be prepared to shun the misconceptions and the superstitious beliefs about the disease and treat the persons suffering from leprosy with some consideration and sympathy. Secondly, we must recognise that the disease is widespread in the general population and try to create and educate public opinion to demand

setting up of sound preventive measures and see that they are carried out.

Similarly, there is a need for a new outlook on the part of the medical profession. It is obvious that no real progress in antileprosy work can be made without the whole-hearted co-operation of the medical profession and for this every doctor should know how to diagnose and treat leprosy. But unfortunately many doctors have not the necessary knowledge to do so owing to lack of provision for instruction on leprosy in the past, and even now the instruction on the subject is not satisfactory. Many of them consider the diagnosis and treatment of leprosy as the job of a specialist. Many of them have an unreasonable fear of leprosy, and will not handle and examine patients. Fortunately, in recent years this state of things has begun to change but the average doctor does not yet realise that there is no reason for thinking that diagnosis and treatment of leprosy are not part of his job. The sooner he realises this the better will he serve humanity. Moreover, the average medical practitioner can greatly help in educating and creating a forceful public opinion for making the Government plan antileprosy work as an essential and integral part of the public health and medical work of the country.

So also our medical institutions should cleanse their attitude towards leprosy. Patients of leprosy are often refused treatment either for leprosy or other diseases in the general hospitals or dispensaries. They are refused admission even to an infectious ward of the hospital, when in urgent need of medical or surgical treatment for diseases other than leprosy. The nature of the disease does not justify this attitude and there is no adequate reason why non-infective cases should not be admitted to general wards and infective cases to infectious wards if needing hospitalisation. If this policy were generally adopted in Government hospitals it would contribute greatly towards a sounder outlook on the part of the medical profession in general as well as on the part of the public towards the patients with leprosy. This welcome change alone will have a far greater educative value than a spate of words the publicity officers and other leprosy workers may use in pleading the cause of leprosy.

There is a need for a new outlook on the part of public health authorities also. It is rather an unpleasant fact that while in other countries the public health authorities, by implementing the recommendations of various national and international bodies and by adopting effective antileprosy measures as an integral part of their public health system, have been able to control the disease the task of leprosy control in India has hardly been considered or attempted. The antileprosy work that is being done in this country even at the present time is of the nature of relief work. The public health authorities in our country do not apparently find enough justification for engaging their serious attention on a disease like leprosy which has little or no influence on

the general death rate of the country. Death rate is our health index. But sickness rate is in many respects as important, if not more, as the death rate especially in a country like that of ours because poor health means lowered vitality, less energy, more social and economic cost, less productive efficiency, less enjoyment of existence and more misery. In leprosy all these effects of poor health are greatly multiplied because of the accompanying mental suffering. If sickness rate in a country is taken as an index of social progress it cannot be denied that we in India are extremely backward in social progress and there is absolutely no justification for our public health authorities to remain complacent about leprosy with such poor record of work to their credit. The fourth International Leprosy Conference, 1938, recommends as follows:—"That the Conference wishes to emphasise strongly its opinion that the control of leprosy is essentially the responsibility of the governments of the countries where the disease is common and that antileprosy work should form an integral part of the public health programmes of such countries. The public health authorities of our country should implement this recommendation without any further loss of time."

VIII. Need for a Definite Policy.—In India the public health work is a provincial responsibility and even when the provincial and local self-governing bodies have assumed some responsibility in antileprosy work they have often done so in a half-hearted way. They have appointed a very small, poorly paid and sometimes poorly qualified staff. In some other countries, for example, the Philippine Islands and Japan, the conditions of work have been such as to attract some of the best qualified and ablest men in the country. In these countries the leprosy workers are Government servants—well-qualified, well-trained, specially chosen for the work and given excellent status, pay and prospects. These men have been permanently engaged in developing antileprosy work on the basis of the isolation of infective cases—such work requiring for its maintenance a considerable part of the medical and public health budgets. The conditions of antileprosy work in our country, on the other hand, are most disappointing. At present there is no fixed policy, and the staff is inadequate, poorly paid and with little or no prospects, and no real standing in the province. Inspite of this fact some good men have undertaken work under provincial or local authorities, but their lack of status and authority and the lack of a definite policy and financial backing for that policy has been the greatest handicap to the development of work.

There is a great need for a band of medical men with good general education, good medical qualifications, and a wide experience of leprosy work in India. Given reasonable status, pay and prospects such men will not be found wanting in our country. An effective policy for antileprosy work along

the lines of preventive medicine should be laid down with adequate financial provision for the carrying out of such a policy. What the main ideas of such a policy should be are given in the Report of the Leprosy Committee of the Central Advisory Board of Health and they are as follows :—(1) To make a critical and thorough study of the leprosy problem as a whole in the general population of the province. (2) To make a critical examination of the present, scrapping what is bad, improving what is indifferent and continuing and extending what is good. (3) With the help and advice of a Central Organisation to assist Provincial Governments in laying down a sound policy for the development of existing work and in the framing of new measures, medical, public health and legal, to deal with the situation, such measures to be based on the sound general principlss of hygiene and preventive medicine and not on popular notions and superstitions. (4) The establishment of a Provincial Leprosy Sanatorium to act as the hub of antileprosy work of the Province.

It is clear that the cause of widespread leprosy in our country is not so much due to the lack of actual knowledge of the means of control of the disease as to the ignorance of our people of these means and how to apply them and the unwillingness on the part of our authorities to set up an adequate machinery to control the disease. In 1941, the Central Advisory Board of Health, Government of India, appointed a Committee to report on the problem of leprosy and its control in India. So far as leprosy is concerned this step was the first of its kind in India. This Committee considered the problem from various aspects in relation to the past, present and future of leprosy and antileprosy work in India and made an elaborate report which has since been published by the Central Advisory Board of Health and will be available from its office at New Delhi. I have quoted liberally from this Report and I recommend its perusal to any one interested in social work, particularly leprosy work, and I am sure that it will provide interesting and profitable reading. Now that the necessary up-to-date knowledge about the disease and the best practical ways of bringing the disease under control have been provided to us by this valuable report we should lose no time in making a serious effort to formulate a definite policy and take all practicable steps as soon as possible for the implementation of the recommendations contained in this report. I hope all the money necessary for a cause like this will not be found wanting. Will our Public Health Authorities, social and health workers, and the honourable members of the legislatures, Provincial as well as Central, take up this worthy cause ?

SOME OBSERVATIONS ON SOCIAL INSURANCE *

J. H. THOMAS

Rightly does the Beveridge Report urge that a plan for social security must be prepared during the war to abolish want in post-war Britain. Social Insurance is a matter of deep concern to all those interested in the welfare of the working population since it is one of the most important factors in decreasing human misery and increasing human happiness. In this article the author makes some pertinent observations with regard to the introduction of social insurance in India and hopes that it will soon be brought within the ambit of practical politics to promote the well-being of our workers.

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IT is perhaps not too much to claim that one of the surest manifestations of the progress of a nation towards a correct appreciation of the interdependence of the various elements of the population that compose it is a gradually mounting demand for the alleviation of the disabilities of the humbler classes of the community. Where these classes are articulate they will themselves provide the first impetus for their own betterment, but the more enlightened the community to which they belong the more readily will the better-placed members thereof recognise not only the justice of the plea but they will also appreciate that contentment and security for the workers ultimately lead to better work, to more rapid economic progress and to a successful future for the community as a whole.

In this article one need not contrast the advantages and disadvantages, from the workers' standpoint, of an all-round increase in wages as against some provision for the time when, for some reason or another, the payment of wages ceases. We start our consideration at the point where it is already decided that in certain circumstances when wages are no longer payable the worker must have available for him a scheme of assistance under conditions which make it his as of right and not as a charitable gesture by others.

There is a variety of circumstances in which the source of a wage-earner's income ceases. It will be clear that in some cases the cessation is the result of the voluntary act of the wage-earner and therefore calls for no recompense, but there are other cases where assistance is clearly called for.

The most obvious case is sickness—a condition which demands extra

* This article was written before the announcement of the publication of the Beveridge Report on the Social Services in the United Kingdom. Although the press and radio have made frequent references to it no copy of the actual official report has yet come into the author's possession. In these circumstances it has not been possible to incorporate specific reference to the Report.—J. H. T.

expenditure just at a time when the earnings are reduced, if not altogether stopped; and the situation is rendered still more acute if the sick workers should happen to have dependants. Hardly less serious is the plight of the man thrown out of work. Again, we have the case of injury to the bread-winner by accident while at work or of his death, whether from accidental or natural causes, as a result of which the financial circumstances of his dependants are adversely affected on account of the extra expenses to which they are put and of the loss of his income. The foregoing catalogue includes perhaps the majority of the ills of the type with which we are concerned and to which the more poorly-paid ranks of our workers are heir, and by the concerted attempts social reformers should seek to mitigate the adverse effects of these ills by means of the insurance principle which has come to be known under the general term of Social Insurance.

Social Insurance, however, is not limited to the provision of protection against only the ills of life. There are other occasions not necessarily ill, even positively beneficial to the community, which nevertheless bring expense or disability in their train. The most obvious of these perhaps is the procreation of children, a service to the State without which the State cannot continue but which nevertheless involves expense to the parents. Hardly less obvious is the provision of a pension during old age to workers who are no longer fit to earn a living by means of their own labour. In this connection reference may be made to the schmes which have been put forward at times of chronic unemployment for encouraging workers to retire on reaching certain specified ages in order to make room for younger and more active men. These schemes are based on the inducement provided by what are conveniently called "Retirement Pensions".

The most highly developed State would, no doubt, have in operation schemes of insurance to provide the necessary benefits in the event of all these contingencies. It is now necessary, however, for us to limit the scope of our enquiry in order to keep it within the bounds of practicability. We have primarily to consider what is possible in India under the present conditions or those of the near future. Even without assuming the mantle of a political prophet he would indeed be a bold man who would venture to foretell the conditions that are going to prevail in industry after the present war. If, however, the war of 1914-18 may be taken as a criterion, one inevitable deduction or conclusion is that the industrial workers—using the term in its widest sense to include the black-coated as well—will press for a betterment of their conditions which must include some form of insurance provision.

For a considerable time it has been no secret that discussions have been taking place in responsible quarters in connection with this subject. There

are those who think that a start should he made in more settled times but then the reforms should proceed on a wide basis; there are others who believe that it should be made at the earliest possible moment in a modest way and they recognise that because the field for insurance is too vast to be completely covered at the outset that in itself is not a sufficient reason for refraining from making a start within the limits of the possibilities of the moment. Their views may be summed up in the quotation: "Shall the field be mown before nightfall, if the scythe be sharpened all day?"

History shows clearly that the achievement of social reforms is always a gradual process; therefore we have to anticipate that the achievement of a widespread system of social insurance in India with the different services properly dovetailed will also be gradual beginning with the more urgent services. Financial considerations alone lead to this conclusion. There may be room for a little difference of opinion as to which service should be used as a basis for the whole structure, but on the whole it will probably be felt that the evil which weighs most heavily on individuals and which at the same time is most widespread in its incidence is sickness, and so the rest of this article will be devoted to the discussion, in a general way, of some of the various aspects and problems present themselves both at the inception of a scheme of Sickness Insurance and during its subsequent working and development. The writer has had some contact with the schemes of social insurance operating in England and will find it convenient and helpful from time to time to refer to various aspects of those schemes.

In the first place, it is to be remembered that social insurance schemes are not run for financial gain and if, as a result of efficient organisation, good management or administrative efficiency, profits do accrue, they should not be dissipated promiscuously. This is a matter which will be dealt with later, but it is mentioned now as it has a certain relevance to the principle that the financial foundation of any edifice of true social insurance must show actuarial equilibrium between contributions and benefits. Even if one of the parties responsible for the provision of the necessary money is a public authority, in these days of increasing administrative efficiency and control it would not be desirable, even if it were permitted, for any such authority to undertake unknown liabilities and to allow itself to be regarded as a fairy godmother able to provide whatever is necessary to keep the scheme afloat. Similarly, the employers of labour have a right to know as nearly as possible the extent of their share in the financial burden and to satisfy themselves that the benefits offered are commensurate with the sacrifices which the contributories are called upon to make. In the case of employers too, the question of the charges that are going to fall upon them enters directly into the computation of the

prices at which they can sell their products. In the case of a rate- or tax-levying authority the obviously parallel considerations apply. It is quite evident then that financial purity, no less than business planning, demands that as nearly as actuarial estimates allow the scheme must be in monetary equilibrium and this means that the contribution of every party must be fixed beforehand.

In normal circumstances the contributories are the employee, the employer and perhaps a public authority. It may be asked, why make the employee contribute since it is he alone who gets the benefit? There are several answers to this question. In the first place, the benefit that has to be purchased, even though at a rate to the recipient well below its intrinsic value, is more highly appreciated than the one which costs nothing. Moreover, the fact that the benefit has to be paid for in part by the employees tends, theoretically at least, against the perpetration of frauds against the funds, for each one can be a vigilant watchdog on guard against misapplication of his own contributions. Thirdly, and perhaps this is the most important reason, if the employee was not made a contributory, the benefits would have to be reduced correspondingly, and so those who fall to receive benefits would find themselves short in the proportion that the employees' contribution would have borne to the total contribution of all contributories. If, for the sake of argument, each contributory bore one-third of the cost, then so far as the employee is concerned the elimination of himself and his colleagues from the ranks of the contributories would have the effect of reducing the insurance scope of the scheme by one-third. This would not matter to the man who never claimed, but the claimant would be at a serious disadvantage. In effect there would be no insurance in the true sense at all from the point of view of an employee, but merely "charitable" donations enforceable by law from employers and the tax- or rate-payer generally.

The argument for putting a part of the burden on the employer is presumably his moral duty towards the employee whose work provides him with his profits and, moreover, that he can legitimately pass on the charge to the consumers of his goods. Where a public authority also contributes, it is not difficult to claim that the public as a whole has an interest in the well-being and contentment of the community. In this connection reference may be made to the first paragraph of this article.

The next point to consider is the extent of the system of benefits to be offered. It will be appreciated that a very considerable proportion of the cases of sickness occurring in an industrial population are of an extremely short duration—a matter of 2 or 3 days only. If every one of these cases has to be the subject of a claim for benefit the amount of administrative routine be-

comes a very serious burden, the cost of which is out of all proportion to the amount payable and affects adversely the balances in the benefit funds. It is very advisable therefore to count the period of sickness which ranks for payment of benefit from not earlier than, say, the 4th day of the attack.

At the other end of the scale there are long periods of sickness which in the extreme may amount to permanent disability. In such cases the sickness benefit, if it were payable, becomes in effect a permanent pension. Where other alternative provision is made for old age, it is advisable to stipulate that payment of sickness benefits shall cease at the age when true old age pensions commence. If there is no system of true old-age pensions then it will probably be necessary to continue the benefit at a reduced rate until death, but it must be realised that this throws a very heavy financial burden on the funds.

Another point that should be mentioned in this connection is that prolonged sickness, even though it does not amount to permanent disability, also exerts a very heavy drain on the funds. Provided the contributions were big enough this drain could be borne but in practice it would probably be found that the necessary contributions would be too much of a strain, and the custom is to pay the full rate of benefit for a limited period, perhaps 13 or 26 weeks, and then to reduce it to half rate or some other lower amount. The question of a further reduction after a further period or total cessation can only be decided in the light of the practicability of enforcing the necessary contribution.

Yet another point that is convenient to mention now is the linking of attacks of sickness which are separated by certain intervals during which the insured person returns to work. Where a system of reduction of benefit after a stipulated time is in operation, it is not difficult to foresee that in many cases an employee could betake himself from his sick-bed for one day and so qualify for a fresh period of full pay benefit, unless there was some rule requiring him to treat as linked-up those attacks of sickness which are not separated by more than the stated intervals. In practice, an interval of 12 months between separated attacks is commonly required to entitle a contributor to reversion to the full rate of benefit.

Reference has been made above to the burden thrown on the administration if claims of very short duration are admitted. Another difficulty, no less serious in its effect on administration, would arise if employees were constantly entering and leaving employment. Track would have to be kept not only of their liability for contribution and that of their employers in respect of them also but many awkward problems would arise as to whether they were eligible for benefit and, if so, at what reduced rate, depending on the arrears in their contributions. It is evident then that provision for workers

in seasonal occupations present grave difficulties and therefore it would be advisable to exclude them from the insurance scheme, and if possible to set up a special system for them in which it would probably be found necessary to sacrifice some of the greatest advantages of a scheme based on genuine insurance principles.

It has been argued that a worker who normally enjoys high wages has greater commitments than one drawing a low wage, and so his sickness benefit should reflect this disparity. As long as wages vary between worker and worker this argument has some force, but there are the very greatest difficulties in admitting the principle into the scheme, for it obviously implies differential rates of contributions as well as benefits. Just as the inclusion of seasonal workers strains the administrative machine, similar would be the effect of requiring contributions and benefits to vary with wages. Moreover, it would be necessary to introduce into the mathematical basis underlying the system certain assumptions as to probabilities of earning increased pay and the extent of such increases. Since the assessment of the contribution must take into account the whole of the working life of the worker—a span of perhaps 40 years or more—it will be realised that to assess a contribution which is to allow for increases of wages over 40 years ahead entails assumption of the most intricate kind involving wages trends and other highly speculative incursions into the future. Moreover, once the principle is admitted of differential contributions according to wages, the promoters of a scheme may expect to be asked for differential rates for industries. Apart from feasibility, however, there is another way of looking at the matter. It may be contended that it was never the intention to provide proportional compensation for misfortune but only to secure a certain level minimum to everybody, sufficient to keep them up to pre-decided level of subsistence.

For a country like India in particular, where birth records are far from complete, any scheme in contemplation must be based on a flat rate of contribution regardless of age. In fact this course is followed even in countries where records are more reliable, on account of the much greater simplicity in operation. But it is clear that the same benefits cannot be given to a man of 20 as to a man of 40 years of age for the same contribution; yet at the inception of the scheme and also in any circumstances when a worker takes up insurable employment at an age above the normal entry-age into regular employment, there will be many cases when a worker becomes insurable at an age above the normal entry-age for which alone the actuarially calculated contribution is adequate. Some device is therefore necessary to prevent the scheme from being saddled at its inception or subsequently with a heavy load of liability in respect of the late-age entrants, for financial equilibrium must be considered the

keystone which supports the whole structure of any scheme introduced in these days of accountants, actuaries and finance departments.

This problem arose in acute form in the National Health Insurance scheme introduced in the United Kingdom. Its importance then derived from the fact that the whole system was grafted on to the existing Friendly Society and Collecting Society systems. Each of the Friendly Societies had to be solvent on its own showing and no two societies had the same proportion of late entrants. Consequently, there had to be something in the nature of a central pool from which credits could be granted to each society according to its needs if it were to be solvent. At the start these credits were only paper assets, but to convert them into cash—20 years was the original term contemplated for this operation—a very small fraction of each weekly contribution in respect of each employee was diverted to a central sinking fund. Unfortunately circumstances did not permit the redemption scheme for "reserve values", as the paper credits were called, to work itself out undisturbed. Changes in the rates of benefits and contributions and in the upper remuneration limits of eligibility for insurance combined to upset the redemption time-table but enough has been said to show the nature of the problem and that even when justice has to be done not merely in one over-all scheme but individually to each of the 7000 separate units (including the Friendly Societies with their branches) which go to make up the whole scheme in the United Kingdom, the problem is far from insoluble.

It would therefore appear that when the time comes to initiate a scheme in India on sound lines, some such device as that of the Reserve Value system will be found to be essential.

It has been supposed that financial equilibrium between receipts and payments of the insurance fund is to be the fundamental basis of the scheme. To achieve this, however, certain assumptions as to rates of sickness, mortality and the like have to be made, but the whole process is barren unless periodical investigations are made to ascertain whether the assumptions are being borne out in practice. Two things may be happening—either the actual experience is more favourable to the fund than the assumptions, or the reverse.

In the former event the fund would show an actuarial surplus, but it would not be safe to dispose of this surplus until the sources from which it has sprung have been ascertained. Ordinary common prudence will then dictate which of the sources should be regarded as wind-falls and the product thereof conserved as reserve and which are of recurrent nature. The latter might, in part at least, be considered as available for disposal. Disposal might take the form of increased benefits or the institution of new benefits, e.g., dental treatment.

On the other hand, if there is found to be an actuarial deficiency, equilibrium must be restored, by subsidy, by increase of contributions, or by reduction of benefit. As between the two last-mentioned methods of restoration, reduction of benefit is the less undesirable as it affects fewer people.

A fund in deficiency, however, gives rise to a very difficult point. One category of insured persons employed in one particular industry may claim that they are experiencing a lighter sickness rate than the rest and therefore it is unfair to make them subject to disabilities in order to restore solvency. Investigation may justify their claim and the authorities may then be confronted with a demand for sub-division of the fund according to industry. It has already been suggested above that this demand might follow if rates of contributions and benefits were related to rates of wages, but it is clear that it may arise independently and the authorities will then have to make a difficult decision.

It is in this connection that the Friendly Society system in the United Kingdom was found so useful. Not only did it mean that a very large section of the public was already acquainted with insurance matters but it gave an opportunity to workers voluntarily to band themselves together according to any attribute they liked, e. g., by political creed, by religious belief, by occupation or anything else. In this way the charge of subsidisation of the heavy claimants by the light was largely provided against.

Reference has been made above to Friendly Societies and at this juncture the part played by these bodies should be explained. For many decades the working classes of the United Kingdom have voluntarily formed themselves into societies for their mutual advantage and aid in times of distress. Sons followed their fathers into membership as a matter of course and a kind of mutual rivalry between societies in regard to usefulness and prosperity was fostered and flourished. Of recent years the vigour of the growth has been somewhat retarded but still at the time of the introduction of National Health Insurance in the United Kingdom the system was the obvious vehicle for the local administration of the new legislation. Subsequent investigations, including one by a Royal Commission, have testified to the excellent work done by these societies and to the invaluable part they played in the establishment of the system on a basis which has successfully surmounted difficulties which might have been expected to lead to chaotic results.

When we look round to see whether India has any such institutions on which to graft a scheme we are forced to have to admit that there is nothing of an equivalent nature. This is a most serious drawback and it would seem that the necessary organisation would have to be worked by the local authori-

ties unless it could be entrusted to the Trades Unions where such exist. This question of local administration, it is feared, will be one of great difficulty for it cannot be too strongly stressed that the value of a sound financial basis will be completely lost if the administration particularly at the circumference in incompetent.

Another indispensable factor for a successful scheme is a competent medical service linked with an efficient system for the supply of medicines and drugs, for it is assumed that no system would be complete if it merely provided the employee with a periodical payment during sickness and left him without any obligation to have himself competently doctored so that he should cease to be a liability to the fund as soon as possible. The responsibilities of the doctors cannot be too strongly stressed. They will naturally wish to deal with their patients on the most humanitarian lines, but they will be often in doubt as to whether they are dealing with malingerers. Their position will not be an enviable one but they must appreciate that the financial basis of the system will be defeated if they allow themselves to be deceived by malingerers. It is a fact well-known to actuaries that rates of sickness derived from the experience of a body of persons who are not eligible for insurance benefits are lighter than rates for an exactly similar body who are eligible, or to put it another way, that the rates experienced by a given body when its members are not eligible for any sickness benefits are markedly and adversely affected if such benefits are suddenly extended to them.

It would be interesting now to indulge in a flight of prophecy. Let it be supposed that a simple scheme of sickness insurance for workers in certain industries has been established and has been successfully worked for some considerable period. It will have become part of the everyday life of the workers concerned. What will they think of it and what will be their criticisms and those of the public who take the trouble to study the system and its effects?

A favourable comment may be expected to be that the provision of benefits and medical attention during sickness has had a favourable effect in reducing the volume of physical destitution in the industries covered by the scheme. Further, the seeds will have been sown of the advantage to be derived from a pooling of resources for the purpose of combating those of the evils and misfortunes of mankind which are amenable to such treatment. Moreover, many people who are temperamentally unable to save find saving forced upon them in such a way that they hardly notice. The start may be in a limited way and with a limited sphere, but with the passage of time we may expect the extension of the benefits to other industries and a widening of the scope of the benefits themselves. In the United Kingdom, social insurance

began in 1912 with insurance against sickness and unemployment. In the "twenties" it was extended to cover pensions to widows and orphan children and to both men and women in old age. So popular is the system that even the accuracy of the periodical census enumerations is believed to be affected by the desire of people nearing the old-age pension age to accelerate the arrival of the happy day, at least on paper, by advancing their ages as they approach the qualifying point.

Now what are likely to be the adverse comments? The workers will promptly say that the benefits are palpably inadequate—that in sickness a man's necessary expenses are greater than in health and that the payment offered under the scheme is a mere pittance. This is undoubtedly true. Greater contributions from the employer and the State can ease the position but the malingerer is always with us and has to be guarded against, lest it be made easier for him to malinger and to be dishonest than to indulge in honest toil. The writer knows of an instance where an unemployed baker's roundsman was receiving as unemployment benefit 18 shillings a week. At a busy seasonal time in the industry he was offered six weeks' employment at 25 shillings a week, but this offer was rejected on the ground that a week's work for the extra 7 shillings was not "good business" for the roundsman. Another criticism will probably be that the benefit will have no relation to earnings. This, however, is easier to answer, for at the start at least we are not claiming to provide the worker with full or even proportional compensation but merely with assistance.

A direction from which great good could come would be from the closer contact between the workers and the doctors. It is not pretended that that contact will be close, but since the occasion for payment of benefit will presumably have to be certified by a doctor, it is not difficult to foresee that if the medical profession enter into the spirit of the scheme it may be possible for them to extend the benefit of their advice to workers who under present conditions would go without. A criticism of any scheme which could be launched in the beginning in India would therefore be that the medical contact would not be intimate enough and would not provide for anything but the simplest treatment. This is a justifiable criticism, but it may be hoped that in course of time an extension of medical facilities will be possible. Obviously ophthalmic and dental treatment are two of the most elementary extensions that can be looked for.

Again, we may envisage perhaps the criticism that the scheme does not take any notice of the dependants of the worker. These people have to be supported while the worker himself is prevented from earning and it may reasonably be argued that the benefit paid should have regard to the respon-

sibilities of the recipient in respect of his dependants. A further extension of the system would be to grant medical treatment to wives and other dependants.

It may be said that all these extensions would add so materially to the cost as to be virtually impossible. They would certainly cost much, but he would indeed be a bold man who would say that such developments are impossible. We expect one result of the present world conflict to be a wider appreciation of the part played in the industrial world by labour, and when this degree of appreciation is achieved it may well be that ideas which may at present seem visionary can be brought within the ambit of practical politics. At least it is an encouraging hope to cherish.

THE FORTUNES OF A PRIMITIVE TRIBE

CHRISTOPH VON FURER-HAIMENDORF

In this article the author discusses the present position of the Chenchus of the Nallamalai Hills and demonstrates with this concrete instance how anthropological knowledge can help us to understand social processes and diagnose the causes for undesirable developments brought about by the impact of modern civilization on aboriginal populations.

Dr. Christoph von Furer-Haimendorf is an Austrian anthropologist who has had for many years close associations with England and India. During the years 1936 and 1937 he carried out research in the Naga Hills under the auspices of the Rockefeller Foundation, and since 1939 he has been working among the aboriginals of H. E. H. the Nizam's Dominions.

THE value of anthropological research for the administration and guidance of races on low levels of material development is to-day widely recognised, and in countries like Africa, Australia and New Guinea anthropologists have frequently been called upon to assist administrators with their special knowledge of the economic and social conditions of the indigenous populations. This recognition of anthropology not only as a historical, but also as an applied science, which in some territories has led to the appointment of permanent Government anthropologists, is largely due to the results of the great research schemes carried out by the International Institute of African Languages and Cultures, the Australian National Research Council, and other organisations which were supported by Governments or such institutions as the Rockefeller Foundation. But in India there exists as yet no central body for the co-ordination of anthropological research and anthropologists have, but for rare exceptions, not been associated with administrative schemes; it is indeed only the incidental circumstance that eminent anthropological scholars have sprung from the ranks of the Civil Service, which has allowed anthropology to exert a direct influence on the formulation of policy *vis-a-vis* the twenty-three million Indian aboriginals.

In applied anthropology, as in most fields of science, research must precede practical work, and in every country numerous cases of culture-contact and acculturation must be studied before it is possible to evolve a policy appropriate to the particular environmental and cultural conditions of its primitive races. To demonstrate by a concrete instance how anthropological knowledge can help us to understand social processes and diagnose the causes for undesirable developments brought about by the impact of modern civilization on aboriginal populations, I propose to discuss here the present position of one of India's most primitive forest tribes, the Chenchus of the Nallamalai Hills. The instructiveness of this particular example lies in the fact that

various parts of the same tribe have in recent times been subjected to very different influences, and thus evince the effects of various accidental as well as planned culture-contacts on originally identical populations.

The Chenchus are to-day divided between Madras Presidency where in 1941 they numbered 9,003 individuals and H.E.H. The Nizam's Dominions, in which a total of 3,865 Chenchus were counted in the Census of that year. The jungles of the Nallamallai Hills, extending both north and south of the Kistna River, have been their home for hundreds, if not thousands, of years, and the inaccessibility of those stony plateaux and hill ranges, rising steeply from the surrounding plains and intersected by deep canyons, has allowed them to retain until recently a mode of life and an economy which differ but little from those of palæolithic and mesolithic man. For until the improvement of communications and the opening up of the forests during the last hundred years ended their isolation, the Chenchus entertained few contacts with the outside world and Ferishta, writing in the 17th century, described them as a wild mountain people who dressed in leaves and lived on honey, roots and the flesh of wild animals, and had a language not in the least understood by the plains folk.

Even to-day there are groups of Chenchus still leading their old life of hunters and foodgatherers, and in the jungles of the Amrabad Plateau on the southern border of Hyderabad State, we find a section of the tribe comparatively little influenced by recent contact with other populations. Here, then, we can study the original pattern of Chenchu culture and it is from this plane that we must view the development of those other sections of the tribe which have had to adapt themselves to a change of environment and new economic conditions.

Let us first visualize how these Chenchus of the Amrabad Plateau live in the depths of the forests where since time immemorial they have formed the only population. Scattered over the wooded hills, at distances of two to five miles, lie their small settlements each consisting of three to ten huts built on the edge of a forest clearing or on a slab of naked rock. It is here in circular huts, with wattle-walls and conical thatched roofs, that the Chenchus spend the rains and the greater part of the winter, while in the hot season they often leave these settlements, and live in leaf-shelters, under overhanging rocks or sometimes even in the open wherever water is available and the forest offers sufficient food. Thus each group leads a semi-nomadic existence, with a permanent hamlet as its head-quarters and various camping sites to which its members repair during the hotter months. In olden times, so tradition tells, the forefathers of the Chenchus built no solid dwellings, but roamed the woods camping now here now there, sheltering under trees or erecting

temporary sheds and screens of leafy branches. Even in the permanent hamlets seldom more than ten families dwell in one locality, and during the annual migrations these communities split into even smaller groups; it is indeed no rare occurrence to find two families or even a single couple with their children living for a large part of the year many miles from any other human habitation.

The economy of the Chenchus is well in accordance with their nomadic and solitary inclinations. It is based on the chase and the gathering of wild fruits and tubers, activities in which little concerted action is required. There is a noticeable lack of foresight and planning in their economics and the storing of provisions is foreign to their mentality. In the mornings there is seldom food in a village and hours pass before men and women proceed leizurely to the jungle with digging-sticks and collecting-baskets; while unearthing roots and gathering fruits they satisfy their hunger as occasion offers and usually do not return until evening when the only proper meal is cooked. During the day children dig for roots in the jungle close to the village, roasting their finds on small fires, and thus at an early age they participate in the economic life of the community. There is no sharp demarcation between child and adult activities, nor is there any other division of labour in Chenchu society except that between the sexes, and even this is less marked than among more progressive peoples. The collection of all vegetable produce is effected by men and women alike, with no distinction in the method employed. Hunting, honey-taking and basket-making, on the other hand, are exclusively male occupations, while women prepare most of the food. A certain measure of barter and trade must have been maintained with outsiders for some considerable time, for iron implements have a recognised place in the Chenchus' scanty material outfit, and there is no memory of the time when they used stone implements of their own manufacture, but it is significant that Chenchus never barter among themselves. Economically perhaps more than socially the family is a self-contained unit and, save in cases of illness when help is readily forthcoming for members of the local group, the Chenchu family is able to obtain all the necessities of life through its own efforts. Outside the family there is no economic co-operation in the full sense of the word, and the mutual helpfulness between kinsmen and neighbours is not based on a definite system of rights and obligations; it is, so to say, accidental and not institutional.

What is the social system that regulates the behaviour of a Chenchu towards the members of his own group as well as towards men and women of other groups? By far the most important social unit is the family, consisting of husband, wife (or in rare cases two wives) and their unmarried

children. Each family is so independent that it can at any time sever its connections with the members of one settlement and join another while a newly married couple may settle with either the man's or the woman's kin.

Every Chenchu is born into a territorial group which owns jointly a clearly defined tract of land, and though later he may separate from this group he retains all his life a right in the game and the fruits of its territory; and on marriage he acquires a similar right in the hunting and collecting grounds of his wife's native group. Thus the land and the sources of food-supply are considered the communal property of the various territorial groups, whereas all movable possessions are privately owned.

Through both territorial and kin-groups runs a clan-organization, but at present this has no other function than the regulation of marriage. The clans are strictly exogamous and thus divide society for the Chenchu into members of his own clan, whom he regards as brothers and sisters, and those of other clans, who are potential mates and relations-in-law. However, there exists no clan-feeling in the sense of loyalty towards or pride in one's own clan and no organization which could bring about concerted action or mutual assistance of clan-members. When in need it is always the smaller unit, the family or the kin-group, to which the Chenchu looks for help and support.

Although in each settlement there is a headman who now acts as spokesman for the community in its dealings with outsiders, there is no tribal organization in the sense of definite institutions to cement the bond between tribesmen or to mete out retribution for breaches of law and custom. Disputes over matrimonial matters, cases of adultery and elopement are settled by informal councils of elders. Crimes common in more highly developed societies, such as theft, robbery and homicide, are seen to be rare occurrences among the Chenchus still leading their old jungle life. From the tales of the past, however, it appears that encroachments on another group's hunting grounds led sometimes to violence and drastic retribution; but we will hardly err in assuming that, even without an institution for the enforcement of tribal law, life within these small communities has always run fairly smoothly.

Before we pass from this rough sketch of Chenchu culture in its old form to the developments resulting from its recent contact with other civilizations it will be as well to consider the mentality bred by life in small groups in the solitude of the jungle. At heart every Chenchu is an individualist who likes to follow the trend of his own inclinations and hates to be told what to do. He will join the members of one group in their activities just so long as their plans coincide with his own, but as soon as a difference of opinion arises he will without the least hesitation go his own way. Freedom of action and independence are really more essential to him than any material advantages.

Subject to moods, which follow each other in quick succession, he may be full of enthusiasm over a certain plan to-day and have forgotten it to-morrow, and, since he has always been accustomed to follow the dictates of his momentary inclinations there exists no steadying influence arising from education to counteract this vacillating temperament. He finds it difficult to apply himself to monotonous strenuous work and is at the same time too restless to relish complete leisure, thereby revealing a side of his character at variance with that of many primitive agriculturists who after weeks of great exertion enjoy periods of complete, and sometimes even ceremonially stipulated, idleness. The Chenchu's instincts are all opposed to inactivity which, in his own culture, in his traditional hand-to-mouth existence, is tantamount to starvation. For there are no times when he lives on the fruit of previous labours and can therefore turn his mind to other aspects of life. Whether young or old, newly married or blessed with children, highly esteemed for his wisdom or of little account in the council of elders, he must spend every day of his life in the search for food. Thus food is the predominant drive in his life and in his folk-tales and legends, the ideal Chenchu wife, as represented by the spirits who condescend to live with human men, is not the most accomplished mistress, but the woman who provides her family with most food. On the whole the Chenchu looks at the world with a rational and sober eye. Phenomena which he cannot understand do not interest him and this rational outlook pervades even his religion which is entirely devoid of mysticism. Indeed, it may be said that a naive realism is one of the most striking traits in his character.

Such is the Chenchu in his original environment: a son of the forest who gleans whatever Nature provides, without an idea of harnessing her powers to enterprises of his own devising. But the times when primitive man could live undisturbed in the recesses of woods and mountains are past, and to-day all Chenchus are experiencing the impact of more dynamic races. It is, of course, not their first contact with populations of different racial and cultural heritage, for the Nallamalai Hills are not an ocean-island, and encounters with the peoples of the plains, however superficial, must have occurred for many hundreds of years; but never until the end of the last century had their habitat been invaded by outsiders, who were determined to revolutionize the old order and exploit the resources of the forest for their own purposes.

What are the Chenchus' reactions to this upheaval which has forced upon them entirely novel situations and problems? Till about a hundred years ago they seldom met with outsiders other than the priests of the great Shiva temple of Sri Sailam picturesquely set amidst their forests, the pilgrims attending the annual festival and the plainsmen to whose villages they brought jungle produce in exchange for iron-implements, pots and perhaps occasionally

cloth. But when the growing peasant populations of the plains pressed closer round the hills and settled here and there in lower valleys, contacts deepened and the Chenchus, still the undisputed lords of the forest, found an ever widening market for such jungle produce as they had to sell. Honey and wax, sambhur horns and skins, the kernels of *Buchanania latifolia* and the sweet blossoms of the mohua tree, marking nuts, resin to be used as incense, and various other commodities found ready buyers and the Chenchus suddenly came into possession of wealth never dreamt of and could acquire buffaloes, cows and goats, as well as clothes to replace their old leaf-dress and cheap ornaments.

Of all these it was the cattle that appealed to them most and they, who until then had known no other domestic animals than dogs, proved surprisingly clever in the care of the buffaloes and in many of their small communities there were soon several of these animals, whose milk provided a most valuable addition to the mainly vegetarian jungle diet. The Chenchus' nomadic habits in no way conflicted with but even favoured the breeding of cattle, for they easily adapted their annual migrations to the needs of their animals and in the dry weather moved to wherever there was sufficient grazing ground and an ample supply of water. Thus long before any Government agency gave a thought to bettering their economic situation many of them had by themselves enriched their culture by a most important item and effected independently the transition from an economy based solely on food-gathering to the food-producing economy of cattle breeders. Agriculture on the other hand made no appeal. True, they saw the peasants of the plains ploughing and harvesting, and occasionally exchanged jungle fruits for handfuls of grain; but although they appreciated the taste of cooked millet, they never tried their luck with the plough. Such sustained effort, such planning for a distant time of reaping was too contrary to all their instincts, and they contented themselves with their profitable barter and their newly acquired domestic animals.

Had conditions remained what they were in those years of the first closer contact between them and the surrounding Telugu peasantry it is quite possible that the Chenchus might have developed as a race of fairly prosperous cattle breeders. But they had hardly begun to benefit from this flourishing trade when all their assets were wrested from them. For at the end of the last century, first in Madras and later in Hyderabad, the forests were taken under Government control and the people lost their right in the fruits of their ancestral land.

Let us first consider the developments in Hyderabad where even to-day one group persists in its old economy, tempered only by the possession of some buffaloes, cows and goats. The latest to experience the incursions of outsiders

into their forests were the Chenchus of the so-called Upper Amrabad Plateau, whom we will henceforth describe as the Jungle Chenchus. Fifty years ago they were to all practical purposes the sole owners of the forests and they often descended from their hills to barter jungle produce and neatly-made baskets with the plainsfolks who saw no other way of obtaining these goods. So profitable was this trade for the Chenchus that they could sometimes purchase a calf or a goat and thus build up their own stock of animals. Even the shrewd merchants of the villages, so clever in leading the peasants into debt and dependency, failed to get a hold on the elusive jungle folk who remained unassailable in their roadless forests and appeared only in those villages where they were assured of a fair deal.

But this state came to an abrupt end when the Forest Department asserted its claims on the forest and all the produce of value that it contained. What had *de facto*, though perhaps not *de jure*, been the property of the group was now declared State property, and the building of forest roads was soon followed by the auctioning of timber, bamboo and all the minor forest products which were in demand in the plains. Not that the Chenchus' own consumption of jungle fruits was interfered with; such action was neither intended nor could it have been implemented. But their barter with the plainsfolk was seriously hampered, for no longer could they bring *Buchanania latifolia* kernels, *Diospyros melanoxylon* leaves for making country cigarettes, or bamboo baskets to the villages and bazaars of the plains without the risk of being caught by the Forest Guards or the men who had obtained contracts for the exploitation of these products. Moreover, when they tried to sell mohua flowers for the distillation of liquor, they came into even more serious conflict with the Excise officials. At the same time gangs of labourers invaded the forest to fell timber and bamboo and to collect the minor forest produce on a large scale. As a rule contractors preferred to engage the plains people rather than the Chenchus who, unused to coolie-work, were found inefficient. Only by gathering jungle produce could they sometimes earn some cash, and the wages paid for piece-work were poor compared to what they had been accustomed to realize for the sale of produce in the open markets of the plains. While thus the economic potentialities of the Chenchus were seriously restricted their needs tended to grow with the closer contact with outsiders. The derision of their semi-nudity expressed by the Forest Guards and labourers forced the women to conform in their dress to the standards of peasant folks, and once the fear of the unknown forests was dispelled and the plateau made accessible by forest roads, petty hawkers began to bring all sorts of trinkets and cheap household goods to the settlements of the Chenchus. Besides such jungle produce as they could sell surreptitiously, and consequently

at bad rates, they had no other assets left than their small stock of cattle; and so they began selling ghee[1] and occasionally even calves to restore the balance of their economy. At the same time game laws restricted hunting and whereas in the olden days they freely stalked sambhur and deer, they had now to hunt secretly and in constant fear of the Forest Guards.

In the meantime Government authorities made certain efforts to raise the economic level of the Jungle Chenchus by encouraging them to take to the plough. Plots were allotted and bullocks lent in one or two places and a group of Waddars was settled in the midst of the Chenchus with a view to teach them plough-cultivation. The experiment was not a success. One or two Chenchus actually tried ploughing but the sustained effort and the feeling of being tied down to their fields were too much for the instincts of these forest nomads, and forced labour seemed to stand in no proportion to the results,—which not unnaturally were at first hardly encouraging. It was so much easier to go to the jungle and there find the food for the day; why should they toil for food to be eaten next autumn? There is now only one Chenchu on the Upper Plateau who still practises plough cultivation and he, whose village is near the open country, is helped by a plainsman who comes up during the cultivating season, sharing both the work and the crop. But his own sons take no interest in his enterprise and prefer to find their sustenance in the jungle. It is only in small garden plots close to their hamlets that a few of the Jungle Chenchus grow some Indian corn and millet, which they plant with digging-sticks and pick like fruit as it ripens. As a source of food supply the crops grown on these plots are of little account and there can be no doubt that the Chenchu's mentality as developed by generations of foodgatherers is badly suited to the pursuit of agriculture.

While the Jungle Chenchus of the highest hills, though hemmed in on all sides have on the whole maintained their traditional mode of life, other groups have experienced such revolutionizing changes in their environment that *nolens volens* they have had to adapt themselves to a new order. For in the lower parts of the Amrabad Plateau the introduction of forest-exploitation coincided with or was even partly preceded by an influx of Telugu peasants from the plains. In their quest for land they pressed along the valleys into the forest-areas and the Chenchus found themselves suddenly in the midst of newly founded villages of peasant-folks; the best lands were soon cleared of forest and thus their most valuable collecting grounds fell irrevocably into the hands of the new settlers. The Chenchus had no power to resist this colonization and indeed during the initial stages its harmful effects on their

[1] Clarified butter.

economy were off-set by certain advantages. For to the new colonists, busy in making the land arable, all help was welcome and the Chenchus found comparatively lucrative employment in herding cattle and occasionally working on the fields. But as the new comers got into their stride and more plainsmen followed the first pioneers the services of the Chenchus were less frequently required and paid at an even lower rate than ordinary agricultural labour. By that time, however, most Chenchus of these areas were settled in hamlets on the outskirts of Telugu villages and this is still the situation of the majority of these Village Chenchus, as we may call them in contrast to their kinsmen in the jungles of the higher ranges. Now and then they still make excursions to the hills and live there for some days in the old nomadic style, but generally they rely for their sustenance at least partly on daily labour for cultivators of other castes. Though often engaged in agricultural work they seldom possess fields of their own, and so precarious is their economic condition in times when no employment is forthcoming that few of them have been able to acquire or retain cattle. Thus the life of most of the Village Chenchus is no less a hand-to-mouth existence than that of the jungle folk : not spiced and invigorated by the untrammelled freedom of the forest-dweller but dependent on coolie-work which provides them even in the best of years with only the meagrest means of subsistence. In the settlements of the Jungle Chenchus there may be a lack of household goods but never an atmosphere of squalor. Many hamlets of Village Chenchus, on the other hand, breathe poverty and destitution and it is perhaps no accident that we find here a poorer physique and more cases of yaws than among the Chenchus of the Upper Plateau.

Thus we see that the clash between the ancient food-gatherers and the colonizing peasant-folk was here too sudden to allow of a harmonious acculturation. The Chenchus were confronted by a new economic system before their conservative minds were tuned to its exigencies and all that the close contact with the Telugu peasantry did was to give them a taste for a novel type of food and dress and to turn them from free and independent forest-dwellers into poorly paid agricultural labourers.

There is, however, a brighter side to the picture of the Village Chenchus for a few groups have been more fortunate in the circumstances of their absorption into the sphere of rural Telugu culture and enjoy to-day a modest prosperity. In a few places on the lower ledge of the Amrabad Plateau, for instance, close to the old pilgrim route to Sri Sailam, there are Hindu temples of considerable antiquity and the Chenchus of the vicinity seem to have been in touch with the Brahmins and their dependants for many generations. Consequently they learnt something of the plainsmen's habits

at a time when their own economy was not yet disturbed by violent changes in their environment and this slow process of cultural assimilation seems to have culminated in the Chenchus' adoption of plough-cultivation and a settled mode of life. They acquired fields long before the flood of land-seeking immigrants from the plains swept over the lower plateau, and quite a number of them have been able to retain their land. In the off-season they sometimes do forest-labour for the contractors and since agriculture has taught them to work steadily they find employment on equal terms with the plains people. And in the background there is always the forest where they can find roots and fruits to tide them over times of scarcity. Thus they cull the best from two worlds and appear a contented and happy population with not too low a standard of life. Yet they are still a community apart, and though suffering none of the social disabilities of the Depressed Classes live like them in hamlets of their own, some distance from the villages of the Hindus and Muslims.

The great difference in the economic status of the Village Chenchus upon whom the civilization of the plains folk broke suddenly, forcing them to change their style of life within a few years and those more fortunately placed who were able to adapt themselves gradually, over a period of several generations, to the new cultural atmosphere and could thus accomplish not only a material but also a mental assimilation, demonstrates the enormous importance of the time factor in acculturation processes. The component elements, Chenchus and Telugu peasantry, were in both cases the same but whereas only disorganisation and economic distress resulted from the contact when the Chenchus were abruptly forced into symbiosis with the more progressive agriculturists, a harmonious and organic culture-change took place when sufficient time was allowed for the adjustment.

Quite different from the developments in Hyderabad, where the transformation of Chenchu economics occurred haphazardly, are the conditions in the Madras Presidency. Here the Chenchus have been and are still subject to a sociological experiment on a scale unparalleled in the administration of other Indian tribes of hunters and food-collectors.

There can be no reasonable doubt that the Chenchus of the Madras Presidency inhabiting mainly the wooded hills of Kurnool and Guntur Districts were originally as shy and inoffensive forest-dwellers as the Jungle Chenchus of Hyderabad are to-day and this view finds confirmation in Ferishta's statement that "they molest no one and live in caverns and under the shady branches of trees"[2]. But when in the second half of the 19th century agricultural populations encroaching on the fringe of the forests began to narrow the territory in which the Chenchus had hitherto been free to roam

[2] Ferishta's *History of Dekkan* by J. Scott, Shrewsbury, 1794, Vol. II, pp. 83-84.

and in 1860 the introduction of forest-conservancy resulted in a curtailment of their rights in the forest itself, their behaviour underwent an alarming change. Restricted in their traditional activities they began to resort to petty banditry and the authorities were soon faced with numerous cases of theft and robbery committed by them. The Forest Officers, moreover, complained of their wilfully setting fire to the jungles, a habit which the Chenchus were loath to forego since the burning of the high grass reduced the danger from lurking tigers and facilitated the collection of jungle produce.

To end the many inconveniences caused by the self-willed jungle folk Government decided at last on the drastic step of gathering all of them into large settlements under the supervision of the Forest Department. This meant, of course, a complete revolution of their style of life and economy. True, they were granted rights on all forest produce for domestic purposes as well as for sale and were allowed to fish and hunt freely and to graze a limited number of cattle, sheep and goats. Yet the compulsory establishment of these large settlements completely disrupted the Chenchus' economic system; for the edible roots and fruits in the vicinity of any village-site, though adequate for six or seven households, were soon exhausted when preyed upon by fifty to a hundred families; and to move away even temporarily from the settlements was forbidden by law. Consequently the provision of new sources of income became imperative and during the next fifty years the Forest Department tried several methods to provide them with employment; but all such schemes of large scale teak plantations and Departmental working of emergency coupes proved unprofitable and the encouragement of agriculture met at first only with a weak response.

Inspite of continuous expense and many difficulties the experiment of weaning the Chenchus from their life as semi-nomadic food-gatherers was not abandoned and to-day we find the sons and grandsons of those first placed under tutelage living in the same large settlements run for them by the officers of the Forest Department. The atmosphere of these settlements, with their broad clean streets and long orderly rows of houses, contrasts curiously with the homely, intimate feeling of a small hamlet in the forest. But materially these Chenchus under the supervision of the Forest Authorities are well provided for; when working for the Department they are paid at 5 annas per day and they can earn 8 annas and more by doing piece-work for the contractors who are forbidden to employ outside labour as long as Chenchu labour is available. Moreover, co-operative societies which arrange for both the collection and the disposal of minor forest produce have been started; thus the profits that went formerly to merchants fall now to the Chenchus. In pursuance of the policy of preventing outsiders from profiting

at the expense of the aboriginals, the Forest Department has established special shops where the Chenchus can buy provisions and household goods at a reasonable rate, with no fear of being led into debt.

Cattle breeding has assumed a prominent role and there are few men who do not possess at least several goats. Although Government provides land and extends credit facilities to those who embark on agriculture the Chenchus who have taken to plough-cultivation are still in a minority.

In the Chenchu settlements are found schools open to boys and girls which attract pupils by the provision of mid-day meals and clothes for all at Government expense. Most of them are well attended and children learn not only reading and writing but also useful handicrafts, gardening and agriculture. Those pupils who have passed the fifth standard are enabled to attend a Board High School and later to receive training as teachers. There are already several Chenchus employed as schoolmasters in primary schools while others have found employment as Forest Guards and as keepers of Government shops in their settlements.

Notwithstanding the good results of the policy of close supervision and guidance in the material field the development of the Madras Chenchus in the social sphere is far from satisfactory, and the surprising number of serious crimes seems to indicate a lack of social equilibrium. Within the last few years numerous cases of murder and man-slaughter committed by the Chenchus of Kurnool have come into court and the majority were *crimes passionels*, both victims and accused being Chenchus. Rape and attempted rape are by no means rare occurrences and are summarily dealt with by the Foresters in charge of the settlements. Cases of incendiarism out of revenge or personal hate are fairly frequent but they seldom steal from each other and nowadays the encroachments on the crops of other villages never amount to more than petty thefts.

It would appear that economic motives play little part in the cases of murder and incendiarism, and we may therfore question how it is that the Chenchus, who in the jungles of Hyderabad are quite capable of settling their quarrels peacefully, should have so many murderers within their ranks in Kurnool. The only answer which presents itself to this disturbing question is that the process of gathering into large settlements has underminded their own social organization and no new system has yet been evolved to replace the old order. In their pristine state there are individualists and any man in disagreement with the other members of his group separates from them and joins another group. Thus friction is avoided and the expedient of flight saves many the bitterness of a long drawn out quarrel, absence blunting hate and personal jealousies. But in Kurnool the Chenchus are unable and indeed

forbidden to leave their villages and settle elsewhere while their traditional customs which were sufficient to check outbreaks of violence in the case of small groups of closely related families, prove inadequate to govern the relations between the members of large communities. In the old times, for instance, interference with married women was limited by the fact that the women of a man's local group were usually either his clan-sisters or the wives of his brothers or first cousins and that distance rendered intrigues with other women comparatively difficult. Nowadays, however, the inhabitants of a settlement consist of members of many clans between whom there appears to exist little of the cohesion and mutual loyalty necessary for a healthy community life, and it may take a long time till the present unwieldy aggregations of Chenchus in the settlements established by the Forest authorities develop into organic and responsible communities.

The experience gained among the Chenchus of Madras seems to demonstrate several important facts. It shows that interference with the traditional activities of a primitive race may have as unexpected results as the change of the Chenchus from inoffensive forest-dwellers to brigands and robbers, and that transition to a new economy and a new type of social life is under the best of conditions a very lengthy process. Even to-day, more than half a century after their establishment, the Chenchu settlements have still to be run by Forest Officers and far from being economically independent the Chenchus rely on Government to provide them continuously with employment. The Madras Government is no doubt discharging the obligations incurred by taking them under tutelage to an admirable degree and the education and medical relief provided have already proved beneficial. But the distress which would follow any sudden discontinuation of the present policy, which incidentally involves an annual expenditure of more than Rs. 30,000, is hardly imaginable. No longer assured of employment and probably unable to return to the forest life of their fathers the Chenchus would, after two generations of spoon-feeding, be utterly helpless and far worse off than their uncivilized kinsmen in the Hyderabad forests. Thus it seems that only an administration sure of its own stability can undertake the responsibility of leading a primitive tribe on the long and dangerous path to an entirely novel mode of life; for if abandoned half-way the people can neither turn back nor are they likely to be strong enough to proceed independently. Moreover, we see that material progress is not everything and where the development of social institutions cannot keep pace with the growth of local units the old tribal organization is no longer able to control disruptive instincts and the social equilibrium of a people is seriously endangered.

Both the present situation of the Jungle and Village Chenchus of Hyder-

bad and the results of the Chenchu Scheme of the Madras Presidency had to be taken into account when I was asked to put forward suggestions for safeguarding the future of the Chenchus of H. E. H. the Nizam's Dominions. After half a year spent on the Amrabad Plateau in studying their economic and social position[3] I felt that the most urgent measures were to stabilize their economic position by restoring those still leading the old life of food-gatherers at least some of their old rights in the forest and to save them from both exploitation by outsiders and such economic distress caused by sudden contact with progressive populations which tends to be merely disruptive without any constructive effect.

In the more distant future no doubt all the Chenchus, if favoured by circumstances, can gradually assimilate the cultural atmosphere and economic methods of the neighbouring peasantry. From the experiences among the various groups of Village Chenchus, however, we see that this transition can only be achieved over a period of several generations and not within several years. It is the next few decades which are fraught with danger for the Jungle Chenchus. During this period they can only hold their own if encouraged in the activities in which they are already proficient: the collection of minor forest produce, both for consumption and exchange against manufactured goods, must long remain the mainstay of their economy. Cattle-breeding, which has proved so congenial to them, could also be extended and just as nowadays the cultivators of the surrounding plains employ Lambadi to graze their cattle in the Amrabad Forests during the hot season they could entrust the Chenchus with this talk and pay for their services in grain or young stock. At the same time their gardening activities could be encouraged by the introduction of quick growing vegetables as well as of taro and yams and I believe that an economy based on the collection of minor forest produce for consumption and for sale, occasional forest-labour, cattle-breeding and gardening during the rains, would suit their temperament and the genius of their culture far better than any occupation which completely cuts them off from their forest home.

With this idea in mind I worked out a plan for an immediate amelioration of the Chenchus' economic position; and with certain modifications suggested by the Forest Department this programme has been sanctioned by H.E.H. the Nizam's Government for a preliminary period of five years and is now being put into force. Its main points are as follows:—1. Part of the

[3] The results of this study are contained in my book *The Chenchus : Jungle Folk of the Deccan. The Aboriginal Tribes of Hyderabad*, Vol. I; cf. particularly Chapter XXXIII (p. 320-328) in which the Chenchus' prospects for the future are discussed as well as Appendix VIII by R. M. Crofton, C.I.E., I.C.S., which gives the full details of the scheme sanctioned by H. E. H. the Nizam's Government.

Amrabad Plateau is to be established as a "Chenchu Reserve" in which the Jungle Chenchus can follow their traditional mode of life and are allowed to hunt and collect forest produce without any interference from outsiders. 2. Within the Reserve minor forest produce will no longer be auctioned and the Forest Department will arrange for a Sale and Purchase Depot, where all minor produce collected by the Chenchus will be purchased at fixed rates and where they can buy grain, cloth, implements and household goods. 3. No non-Chenchu will be allowed to settle permanently in the Reserve and no money-lender will be allowed to deal with the Chenchus of the Reserve. 4. Forest contractors who employ Chenchus for felling-work will have to pay them scheduled wages fixed by the Inspector General of Forests. 5. No grazing fees will be charged for the cattle owned by the Chenchus and steps will be taken to encourage outsiders to employ them for watching cattle. 6. The Chenchus will be allowed to cultivate within demarcated areas free of all charge but no non-Chenchu will be allowed to cultivate any land within the Reserve. The Forest Department will supply the Chenchus with garden seeds free of cost and advise them in their gardening activities. The Chenchus will moreover be encouraged in all forest-industries such as basket-making. 7. The Forest Department will employ a Chenchu Forest Guard and Chenchu Forest Watchmen to replace non-aboriginal Forest subordinates in the area of the Reserve. 8. An outpatient dispensary will be attached to the Sale and Purchase Depot and will be visited on appointed days by the Medical Officer of the Amrabad Dispensary. Stocks of quinine will be kept there and be available to the Chenchus during the intervals between his visits. 9. Most of these concessions will apply also to those Chenchus living outside the Reserve, and those Chenchus now living as agricultural labourers in hamlets attached to the villages of Telugu peasants will be given the option of settling in special Forest villages where employment will be provided by the Forest Department.

In drafting this scheme care has been taken to avoid any measure which might weaken the Chenchus' social organization and thereby disturb the equilibrium within the tribe. Very much in contrast to the Chenchus in the large settlements in Madras, the Jungle Chenchus of Hyderabad are still perfectly capable of settling their disputes in an amicable way, and cases of serious violence are practically unknown. No outside supervision is therefore required, and I believe that the harmony of endo-tribal relations is so great an asset that in order to retain it certain sacrifices are warranted. The establishment of schools for Jungle Chenchus, for instance, would necessitate the concentration of larger numbers of families in individual localities than are now found in any hamlet and would moreover interfere with their

seasonal migrations and consequently involve a re-adjustment of economy for which the Jungle Chenchus are not yet prepared. It has been felt, therefore, that school-education is at present only practicable for those settled groups of village Chenchus who live near larger villages in symbiosis with the rural Telugu populations and even they have still to be persuaded to send their children to the existing village-schools. But to introduce school education among the Jungle Chenchus at the expense of their harmonious tribal life and economic stability would mean to lose sight of the real objects of any amelioration scheme.

The problem of values can, of course, not be excluded from any deliberations on the future of so-called primitive populations. To many the aboriginals' mode of life is a subject of pity or contempt, because it is so very different from our own idea of a 'civilized' existence. But all such conceptions are relative and a culture, however undeveloped in material aspects, in whose frame work a people can live in happiness and harmony is intrinsically not less valuable than any more progressive civilization which leads perhaps to social strife or the enslavement of one section of the population by another. All those with a personal experience of primitive races have been struck by the general content and cheerfulness pervading most tribal societies and their deep rooted regard for such fundamental human rights as the freedom of the individual and the equality of the sexes; and it is just these valuable qualities which have often been lost when the tribal life of aboriginals has been broken up by a sudden clash with more progressive civilizations. It seems therefore that the chances of replacing the old order by something better and more conducive to the happiness of the people concerned should be carefully weighed before any Government or outside agency decides upon shouldering the responsibility of an interference with the traditional culture and economy of an aboriginal tribe. The transition to new economic methods and new modes of life is under modern conditions often inevitable and in the best interest of the aboriginals, but if judiciously planned this need not result in either the disintegration of the social system or in a complete revolution of old cultural values. It is only when environment and economic conditions are subject to too rapid changes as not to allow of a satisfactory psychological adjustment that a deliberate slowing down of the process of culture-change may be necessary in order to grant the aboriginals a breathing space in which they can regain their material and social stability. This purpose is served by the creation of reserves, where the aboriginals enjoy special privileges and are protected from exploitation by outsiders till such a time when they are mentally and materially prepared to take their place in the economic and social life of a wider community.

PLAY EQUIPMENT FOR CHILDREN

B. H. MEHTA

The child of today is the citizen of tomorrow and therefore Dr. Mehta rightly stresses in this article the need for nurturing the child's intellect during its growth and development in as best a way as possible. He shows means and methods of associating the child, through play, with the socio-economic order of the environment in which it lives and has its being. He has also outlined a scheme of graded play equipment for providing education to children from their infancy to boyhood and girlhood.

MODERN theory and practice of education emphasise the need for self-expression for the personality development of children. Play is recognised as an essential function of child life and the child at play is also the child at school and at work. If play satisfies the work desire of children and helps their education and growth, it should naturally deserve far greater attention at the hands of parents and teachers alike than it does at present. Play motives and performances of children should be carefully analysed and everything possible should be done to promote active, interesting and enthusiastic play. The play functions of children are spontaneous expression of desires and feelings generated by the environment, but at the same time several important factors need to be considered together with the subject of the present article, PLAY EQUIPMENT or the TOY. These factors are (1) Play Environment, (2) Playmates, (3) Play Time, (4) Play Leadership and (5) Play Supervision.

Play Environment.—The atmosphere in which the child should play is a creation of adults and hence maximum care should be taken that it is not congested nor packed with articles which are not of direct use to the child, and that it is clean and beautiful, orderly and well arranged, and properly equipped. The Home Nursery is found only in some modern homes of well-to-do families and it is unfortunate that children on the whole cannot have at least some play space all to themselves. In relation to play equipment the environment should at least include adequate space to spread out the play materials and a proper place which should be easily accessible for storing them without the assistance of or interference from the adults. Low cupboards and large artistic boxes are essential for all good Nurseries.

Playmates.—In its early years the child likes to play alone and it is naturally jealous and acquisitive. The gradual introduction of a child to its playmates requires to be done gently, carefully and systematically. It is a fundamental socialisation process which will involve sharing, co-operation and co-action. In the selection of toys it is necessary that any one child does

not receive exclusively for itself toys which are beyond the means of its fellow playmates. The selection of playmates is subconsciously done by the child itself, and there will be natural likes and dislikes. The likes need to be encouraged and the dislikes discouraged, but children should not be coerced into companionships which are temperamentally uncongenial.

Play Time.—Play is essentially a free activity. Whilst play time is a necessary item in the child's daily routine which may be guided by habit, there can be no special fixed hours for playing with toys. The desire to play with toys may be caused by several factors, namely, the urge of playmates, relaxation from other tiresome activities, the desire for occupation during isolation, or the sudden appearance of a new plaything in the environment. As far as possible play should be encouraged at any time except when it should be habituated to vital routine activities. It is well known that children like to play in bed after they wake in the early morning and they play before going to bed. This habit needs to be encouraged as it provides a proper frame of mind for sleep and daily activities. Play should not be permitted to interfere with meals, baths and evictions, dressing up and similar routine activities. Play time will be naturally restricted to non-school hours for school-going children. In this case a child should not be habituated to get absorbed with its toys at the cost of outdoor life and special toys may therefore be provided for outdoor play.

Play-Leadership.—Play leadership, so far as playing with toys is concerned, only consists of a wise selection of play materials not overlooking the desire and interests of the child and active participation of the adult in play as a secondary playmate. It is an art for an adult to be able to share the play interest and activity of child playmates, but if the adult can do this pleasantly without interfering with their initiative and enthusiasm, then the children are fond of adult playmates and they greatly appreciate the sympathetic interest of adults in their play and playthings. As a matter of fact such a co-operation between the adult and the child will create strong bonds of affection so essential for a happy family life. In selecting playthings the adult may suggest a number of suitable articles and it should be left to the child to decide what it would have for itself.

Play Supervision.—If active co-operation of the adult in play is not possible, then it should receive the minimum of supervision by and the least possible interference from adults. Supervision can only extend to the protection and safety of the child. The play-pen is an old invention to leave the child alone and absorbed with its playthings. Undesirable behaviour of children with reference to their playthings may be gently corrected. The child should be encouraged to develop the habit of keeping things in order

and putting every thing in its proper place. It may be shown the correct way of handling a toy though it is necessary that toys may be handled by the child according to its fancy. It is a common habit with children to experiment with playthings, manipulate them in various ways and even break or destroy them. The toy may be protected but not at the expense of the freedom, initiative and curiosity of the child.

The Toy.—Several important factors like native interests, home, school and playground environment, play leadership, playmates etc., affect the play of children, but in the present article we mainly concern ourselves with one important factor of play life, viz. play equipment. Play is as old as human civilization and from the earliest times children have played with natural and manufactured toys. These are the tools to be utilised in the play environment which is the children's workshop. We shall not discuss here in detail the history and evolution of toys and it is unfortunate that painstaking and accurate anthropologists have failed to notice this particular aspect of human life.

It may be true that the children of the early times played only with natural objects. Stones, sea shells, pebbles, sand, sticks and branches even to-day interest the child brought up in natural surroundings. The hunter's child played with the bow and arrow and probably handled with curiosity the skulls of animals. The child of the fisherman waded into the shallow waters of the sea shore and played with the fishing net. The child of the nomad probably loved the little animals and built small tents of rags to store the meagre domestic furniture. The peasant child played with the pick-axe and showel and sowed seeds in a little garden of its own. With the emergence of the aristocracy with its wealth and leisure, the child had new opportunities for play. In Assyria and Babylon, Egypt, India and China the child played with miniature weapons of war, toy elephants and horses, wooden dolls and silver bells. The children of the princes played with toys of silver and gold, and giant playthings that resembled real objects. Even now in India silver rattles and bells are not unknown. But whenever the child has played, it has been interested in the things used by the older folk, things which were constantly in the environment but which could not be easily handled, things which were bright, colourful and capable of movement, and of making strange sounds.

It is only very recently that educationists commenced observing the complex play activities of children. They were interested in children; they were anxious to know about their natural and spontaneous activities, and they were keen upon helping the growth and personality development of the little ones so that they may become healthy, lively, energetic, intelligent and creative citizens of the future. Many of those friends of children were teachers and some were intelligent parents, and being interested in the play

antics of the child, gave their attention to analysing play activities and suggesting equipment, apparatus and materials that will contribute to play as well as to the education and growth of the child. Froebel started a new era of educational technique that has led to the introduction of further play-teaching materials like the set of articles invented by Madame Montessori that are included in the apparatus for Montessori Schools. Manufacturers and business men took their clues from these practical educationists and put hundreds of toys in the market for the benefit of millions of children. Today toy manufacture is an art and the provision of proper toys and play materials is a problem for the teacher and the parent.

Graded Apparatus.—As the child grows up different types of playthings attract its interest and stir its enthusiasm. The attraction varies normally according to (1) age, (2) sex, (3) temperament, (4) physical environment and (5) the social group in which the child lives. Ordinarily, most of the playthings and play equipment can be grouped under five major heads and toys in each successive group will be found to interest the child according to its growth. The groups are graded according to the variations of the play interest of the child and the growth of its normal abilities. In the first group can be included things that are merely handled. In the second group the articles which are capable of simple manipulation. The third group contains a variety of playthings and in equipment required for imitating various adult individual and social activities. Articles in the fourth group involve ability and skill, whilst in the last group are included equipment and apparatus that involve creation and invention.

Play in the First Year.—The child is able to handle play materials from the first year of its existence. Sound, shape, taste and colour attract the smallest child. The rattle, the sucking thimble and the ball are amongst the first tools that are dropped into the cradle for rough handling, or are hung up for merely dangling before the wide open eyes of the attracted, interested and curious child. Safe and clean materials, smooth surfaces and bright colours receive the first attention of the scientific manufacturer. The materials used for manufacture are mainly wood, cloth or light metal and silver is used where it can be afforded. Special care is required in the selection of toys for the baby. The edges must be rounded and the surface must be smooth so as not to injure the child during play. Of all the shapes the child is interested in the round shape and carved objects. Sharp angles should be avoided. Bright colours attract the infant but the most suitable are light yellow, light sky blue, pale pink and red. Cloth toys are now also very popular and the infants delight in using plush or velvet balls hung up by coloured strips of ribbon.

Wooden Toys.—From the earliest stage of industrial production of toys as also in the previous handicraft stage, the wooden toy had found the largest market in the Western as well as Eastern countries. Even today the educationist unhesitatingly recommends the wooden plaything as against the metal and mechanical toy. The wooden toy is safe, smooth and durable, easily coloured and easily manufactured. It is comparatively light in weight and can be handled with ease. Various types of wooden toys afford ample scope to the child for manipulation and exercise of the imagination. Educational play apparatus for the small child has almost universally been made of wood since the days of Froebel.

Play in the Early Years.—From about the age of two years or even a few months earlier, the child is introduced to shapes and colour. The coloured shapes are handled, arranged, manipulated and counted according to the fancy of the child. Amongst modern toys the most important play materials that go to make a large variety of interesting toys are the bead, the play block, the building blocks and the wooden pegs.

Beads.—The educational play material catalogues of leading firms all the world over include as many as twelve shapes of wooden beads in several sizes. Very large beads or wooden balls are the basis of the first two of the eight kindergarten gifts invented by Froebel. The beads are usually coloured in the primary and secondary colours and large holes drilled through them provide interesting, manipulative play. The use of the bead for teaching arithmetic probably originated in China and is known throughout the world. The most interesting bead counting apparatus exists in Japan. A recent bead play apparatus in the catalogues of most of the important toy manufacturing firms is the toy jewellery box which includes coloured beads and strings. The experience of passing the coloured metal tipped lace through the holes of the multi-coloured, multi-shaped beads develops manipulative skill, observation and concentration and at the same time gives scope to imagination.

Play Blocks.—The wooden brick or play block stands foremost in this group. The normal child has a genius for construction and a fondness for destruction. Play blocks are the best materials to give ample scope to the child for creation and destruction without any danger of wear and tear of the materials. The oblong wooden brick led to the introduction of house-construction sets, and these followed picture cubes and building cubes as well as various other multidimensional wooden shapes. Wooden block play, so common to the West, is not much in evidence in the Eastern and especially Indian homes. Amongst the most famous of the wooden blocks is perhaps the series introduced under the Van Aistyne Chart. This list consists of standard bricks ($6'' \times 3'' \times 1\frac{1}{2}''$),

double depth bricks, double length bricks, half bricks, cubes, cylinders, triangles and semi-circles. The standard Aistyne set meant for the school-room for the use of 15 children of kindergarten age contains more than 300 pieces. It is the famous Aistyne set which has been manipulated by manifacturers to turn out the house construction sets. In Germany the manufacture of the house construction set was an exclusive monopoly of an important toy manufacturing firm. The Aistyne blocks, made to smaller dimensions, are sold in boxes as well as in wheeled carts and trolleys. Picture cubes, common especially to France, have interested children and especially girls all over the world. The Alphabetical Cubes are an interesting play apparatus for language teaching. Telescoping cube-shaped boxes are a recent introduction to the toy market. The play blocks are also useful for exercising manipulative skill and teaching arithmetic. Special apparatus has been invented for stringing, counting and pegging coloured wooden blocks of various shapes.

Wooden Pegs.—Perhaps in order to reduce the monotony of the bead and the wooden block, the peg has appeared both in the toy catalogues as well as in the lists of kindergarten apparatus. The coloured peg has the shape of a bottle cork with a small dowel-extension at the bottom of the peg. Manipulating ability is developed by inserting the pegs in holes provided in various types of Boards. Peg play has led to the invention of the famous Spoil Five game.

Mosaics or Parquetry.—The child is extremely fond of manipulation, and the bead, the block and the peg provide most interesting manipulative exercise; but the pleasure derived from manipulation is very much increased when abundant scope is given to the child for the use of its own imagination. The various types of Mosaics or Parquetry sets are perhaps the best combination of manipulative and imaginative play which indirectly also contributes a good deal towards the artistic development of the child. Originally, mosaics consisted of flat coloured wooden shapes, especially triangles, diamonds, squares and oblongs, which where arranged on trays to form exquisite floor designs. Later bead and peg mosaics have also appeared in the market. In this play apparatus the beads and pegs are placed in holes drilled into the boards. The child will make pictures and designs by placing the beads or pegs in different positions. Lentil and Figure Laying Boxes are a further improvement on the mosaics which only helped to make floor designs and patterns. Lentil boxes consist of a large number of multi-coloured wooden circles, semi-circles and squares, whilst figure laying boxes include other shapes like semi-circles, oblongs, pentagons, etc. and also a number of coloured wooden sticks of various sizes. Mosaics are now also used for the teaching of the alphabet and counting.

Toys for the Toddler.—As the play interest of the child advances, it desires to play with things that require greater manipulations. The creative side becomes more developed and keen enthusiasm is displayed for doing things. Colour sense is sufficiently educated to recognise shades of the eleven colours that are included in the list invented by Madame Montessori. Several play articles have been invented to provide intricate manipulation and advanced series of play blocks and house builders afford better opportunities for engaging the creative interest of the child. Amongst the advanced toys for children between four and six years of age are colour towers, pyramids and posting puzzle boxes. To suggest effort and obtain success and at the same time provide opportunity for manipulation, the hammer is introduced in various types of play apparatus. The most interesting of these toys are known as Hammer and Pegs, and Tap Tap. The Hammer and Pegs is a single play apparatus. The pegs are slit crosswise at the ends and they are to be hammered into holes by the child. The Tap Tap is like the Mosaic, but each wooden bit has a hole through which a thin nail has to be driven into a soft wooden board with the aid of the hammer. The idea of fitting things into holes of the original shape of the article has been well exploited by Madame Montessori. The same idea has appeared in the toy market and various cut-outs are used as insets to fit into similarly cut holes and shapes in the pieces of wood.

The four-year old is interested in reading the clock, and several play articles have been invented to teach "What Time is it?" to children. The simplest is the clock whose hands are easily moved by the child to show a particular time. The Peg Clock and similar devices attain the same object in more difficult ways.

Wheeled Toys.—After the interest in creation, destruction and manipulation comes the child's fascination for movement. Every moving object in its environment has a strange attraction for the child. This was noticed by Froebel when the first two of the Kindergarten apparatus were invented. Throughout the world the wheeled toy holds the imagination of the child as soon as it begins to walk. In the beginning the child is satisfied with what are known as Pull-Along toys. The hobby horse on wheels appeals to the western child. The child in the Indian slum is satisfied by fixing four wheels on a tin box to drag it along with plenty of noise, if it is possible. Well coloured wheeled carts, trolleys, trucks, loaded barges and cargo boats, railway engines, motor cars, aeroplanes, fire engines, horse carriages, military transports and innumerable varieties of wheeled toys in different sizes are there to satisfy the child about its curiosity for moving objects.

The child is not merely satisfied by dragging a toy, but it is more interested in enjoying movement. Wheeled toys of a larger size which can be

occupied by the child whilst it is dragged by others or are self-propelled occupy a prominent place in the toy market. The perambulator precedes the Kindergarten toy. Later on the play-pen idea is represented in the "High Chair" and the "Kiddy Kar". The child, seated on this chair on wheels, is enabled to move about of its own accord. Self-propelled wheeled toys, especially the tricycle and the scooter interest older children.

The hand-cart, wheelbarrow, the porter's truck and trolley, which are used by carrying about loads of play articles and play blocks from one place to another, are of much interest to children. These articles are an important item in the equipment of Labour Schools in Europe and Nursery Schools all over the world. The child indirectly takes to manual labour and realises the importance of physical effort. It is the first interesting lesson in playing with the "Work Idea". The luggage-carrying play articles are efficient instructors for imparting the idea of self-help.

Water Play.—Almost together with the interest in movement, appears the child's interest in water. The sea ought to become any child's companion. The sand is a safe and hygienic play article for every child. The sand-pit and the sand table can be provided for the child in the garden or in the house. Sand affords ample opportunities for and gives full scope to the growing imagination of the young one. To improve its natural faculties and afford greater play activity the sand cart and sand play apparatus like bucket, showel, sand-pencil, sand tapper and sand carver are provided. Children delight to play in water, wade in pools and splash in the wading ports that are a part of Housing Settlements in the West. Children are keenly interested in floating paper boats on pools of water, and play equipment manufacturers produce "bath toys" like wooden boats, sail boats, steamers, battle ships and barges which can easily float in a bucketful of water.

Toys for the Pre-School Child.—As the child grows up, special kindergarten toys have been invented to suit its needs. Amongst these the most important are pyramids, circular towers and cones. These are manufactured in different colours. Coloured pictures are added to enhance the interest and the educative possibilities of the toy. Other special play apparatus include Puzzle Boxes, Posting Boxes, Insets and Hammer and Pegs of a more advanced type than those provided for the toddler. Picture puzzles and Jig Saw puzzles are well known, and easily constructed pictures attract even the very small child. There are several types of block puzzles with colour and shape clues that exercise the mind and invite the curiosity of the playmates. The Posting Box likewise is a puzzle that teaches shape and affords easy manipulative exercises.

Pets and Animals.—Little children are not merely interested in bright,

colourful green shaped, smooth surfaced objects in their environment; they are also interested in living creatures. Animals are the greatest friends of the young. They are the fellow playmates of the little human world. If living pets are not easily available as companions for the affectionate child, then even animal toys are adequate to satisfy their love of the sub-human kingdom. It is necessary to avoid giving ugly, ill-made unreal animal toys to the enthusiastic little boy or girl, though many educationists have suggested that the unreal toy appeals to the fancy and imagination of children. Amongst the many animals, the puppy, the pussy, the teddy bear and jumbo the elephant are desired by most children; but the good toy producer can make any animal appeal to the imagination of the young. Some of Walt Disney's creations like Micky Mouse and Donald Duck or the human Pinochio have easily caught the imagination of the western child. The animals by themselves, carved in wood or made of cloth or velvet are good enough for any child; but they become more interesting when they are coloured and are capable of being moved. Still greater interest is added when they are performing toys.

Dolls.—Playthings that belong to the living world are not merely objects of play. Just as the primitive mind confuses the inanimate with the animate, likewise the toy is 'real' and alive to the small child. It shares its life, receives its tender affections and mother care and listens to the word pictures of the young imagination as they leave the innocent lips. The animal, and still more the doll, has a great humanising, socialising influence on the young child. It gives shape to tender emotions and makes the children kind and pleasant. It is true that the doll, be it the old Indian wooden "Chotis" or the modern fancy-dress doll, appeals more to the girl than to the boy. It is not merely a toy by itself, but it becomes another live companion round which other interesting games will revolve. The girl will not merely have the doll, it will cook for it and feed it, give it a comfortable home, dress it and lull it to sleep, rock it on the hobby horse and drive it in the small perambulator. The doll provides another world, a world full of imagination, beauty and grandeur, to the active and interested child.

Mimic Play.—If dolls are not very fascinating to young boys, they delight in playing with human figures in another way and they mimic other aspects of the social life of man. Playing at soldiers with forts and guns may not be a very pleasant and educative pastime for peaceful citizens of the future, but this type of play has appealed very much to the Western mind. Playing at shop, or reconstructing a miniature railway system is a prototype of the dolls' house with its cooking and house arrangments.

Mimic play should be regarded by parents and teachers alike as a very

instructive type of amusement for the young. The play system of the Soviet Union is carefully planned to introduce the young to factory and farm life from very early years. There is not the slightest harm if the child is made to rehearse the entire round of healthy folk activity in the playroom. For example, there is an interesting American toy which explains to the child the correct methods of crossing streets and demonstrates the functions of a policeman in regulating traffic. Toy workshops and tool sets provide very great amusement to the boy and miniature toy workshops are sold for the benefit of Japanese children.

Educational Play.—The toy which is mainly an instrument of play has been requisitioned for the benefit of the classroom, especially for teaching the alphabet and arithmetic. Wooden cut-outs help the teaching of the alphabet and the building up of the child's vocabulary. Alphabet blocks are commonly used in the Nursery School. Interesting counting devices have been invented using the bead or the wooden cube as the basis of instruction. The printing press is not merely useful for creating school books but also a large variety of printed play objects. Printed wall charts, clocks, etc., are used in classrooms for the purpose of instruction. The games of Anagrams, Word Building and Sentence Building are useful for teaching vocabulary to the child in a much quicker time than would be necessary in a classroom. In the toy market the book has now definitely taken an important place. Picture books and story books appeal more to children than the Primer and the Copy Book, but these books deserve a more careful planning if they are to serve the play interests of children.

It is most difficult to invent toys for the grown up boy or girl above seven years of age. There is a dearth of varieties and the same articles are repeated with minor changes. Grown-ups like also to play with the same article for a longer period than the toddler as their interest is more sustained. It is only recently that advanced toys suitable for girls have come into the market and yet they are less numerous and less interesting than corresponding play articles for boys unless the girl acquires interests which are similar to the boy's interests.

Advanced Play.—Construction games which are an improvement on the original manipulative games are the first on the list for grown up children. Complicated Mosaics and House Builders with a larger number of pieces interest children till they are ten to fourteen years old. There are a large number of other Construction Sets in the market for toy-making and building wheeled toys like engines, motor cars, motor trucks, aeroplanes, etc. The metal construction sets originally came from Germany and they were later manufactured in England and U. S. A. also. The Maccano Primus, and the

Merklin sets are the most important and interesting of these. They not only interest the young, but are capable of giving satisfaction to adults till old age. Complicated House Builders and Architect's Sets of various types have been invented but the most interesting of these are the Mobacco and the Minibrix. Construction games are not mere play but they afford very useful technical instruction, improve skill, and develop the intellect. Next to outdoor life, they are the most valuable recreation for youngsters all over the world.

What came into the home as play went into the school as handwork. Kindergarten Handwork provides innumerable interesting activities that afford play as well as pleasure. Plastascine and clay work, paper articles and coloured paper mattresses, cardboard constructions, handyman's tool sets, basket making, raffia, leather work, barbola, wire constructions, bead weaving, knitting and weaving are only some of the most interesting handicrafts that enter the curriculum of Kindergarten and Infant Schools. In the toy market are also found play boxes of plastacine sets, embroidery and knitting cards, basket-weaving boxes, bead-weaving boxes, toy-weaving looms, etc. In handwork the child actually plays with "Work Life" and enters the arena of vocations through the play room.

The grown up boy and girl can yet continue to play, play with the intellect, play with the Sciences and the Muses. The advanced construction sets, as has been said before, provide a never ending interest whilst some of the cardboard and table games as well as card games provide a good deal of intellectual exercise. But perhaps more interesting than all these is to play with Science, to experiment in physics, chemistry and electricity. The famous Lott's products, which, unfortunately, do not come often into this country, have provided interest and instruction to millions of children, especially in the West. Music, painting and sculpture too are not unrepresented in the toy market. The percussion band has added a unique interest to the school curriculum. Advanced sets of plastascine provide interesting opportunities to the budding sculptor. Tuck and his associates and firms like Windsor and Newton have done much to further the little ones interest in art.

In writing the above article there is a certain discontent felt by the author which will be shared by many other readers. India figures so little in the toy world. Wooden toys have been known to the markets, especially in Northern India. Wooden coloured playthings turned on the lathe are found everywhere, and are excellently made in Mysore. Beautiful clay toys are manufactured by our village potters. The brass toys of Delhi are yet sold in our fairs. Whilst wishing the best for our own country, one has to concede that the importance of the toy has been recognised neither by the parent nor the teacher nor the national leader. In Russia after the Revolution a great

scientist took up the work of inventing toys which would be typical of Russia's national life and culture. In India a good deal of propaganda has yet to be done to bring home to the public the importance of play and the toy for the purpose of aiding the growth of the child and making play a part of education and instruction. Toy manufacture has been taken up in several parts of the country during the present war when there are no imports from the West and one enterprise has originated in Bombay which manufactures educational play equipment and imitates the best of toys in the West and hopes to create national toys to suit our national culture. It is essential that educationists should aid the toy manufacturer and even the small home industry man all over the country to create toys which are interesting, beautiful and useful from the educational point of view. The really good toy must give pleasure and instruction, direct and cultivate interests, and develop skill, personality and character.

BALANCED DIET FOR THE POOR

K. S. MHASKAR

In a country like India where the majority of the people are poor and underfed, the problem of nutrition, or rather malnutrition, becomes acute. In this article the author not only explains the essential constituents of a good diet but details a balanced diet which is not beyond the means of the very poor.

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SUCCESS in life depends on having an ideal and making continuous efforts to attain the same, however small the ideal and however commonplace the efforts may be. The theoretical and practical study of Diet and Nutrition is but one of the efforts to attain a higher ideal. This ideal cannot be the same in all human beings and under all circumstances. Diet and Nutrition would give us health and strength and the quantities and qualities of a diet would vary according to the use we intend making of that health and strength. We may desire long life in order to be useful to our society in our ripe age, with our gathered experience and knowledge; we may desire to protect our country and would thus require a diet fit for a martial life. The ideal of a man should be to fight the battles of his nation, to attain a high rank in scientific achievements, in industry, literature, culture, etc., and to make the country a fit and safe place to live in, both for the poor and the rich. "The business of a woman" says an Irish Poet "is to civilize man." I go a step further and say that the business of a woman is not only to civilize man, but *to create man*; and by man, I certainly mean man and woman both in the practical and figurative sense. By man is meant not the body alone, but the body, intellect and the soul, all three put together. It is by recognising the indissolubility of this trinity that we can attain the ideal in view. A woman's ideal is thus the highest on this earth and many of the great men humbly acknowledge "what they are" as what their mothers made them.

Health.—The foundations of the health of these three, body, mind and soul, are laid in early life and the proverb "the hand that rocks the cradle rules the world" owes its inception to the acceptance of this trinity and the far reaching influence a mother possesses in guiding the destinies of her little ones. The foundations of the health of the body are laid far earlier than the cradle stage, and even when the child is in the womb. The permanent teeth are laid in the 7th month of fœtal life and no amount of tooth-brush

parades in later life can prevent their breaking down if the diet in pregnancy is not adequate for the formation of the teeth. If good diet is to make us healthy, we can never make too early a start. The health of a man depends on what nutrition and attention he received in infancy and in childhood. The health of one generation depends on the attention the previous generations have paid to this subject. A healthy and strong nation is not the product of one generation but of several foregoing ones. The influence of the mind on the body is not exaggerated. The proverb "a healthy mind in a healthy body" is true at every moment of our life. Who has not experienced the loss of appetite on hearing bad news and who has not seen worry bring death nearer by inches?

Factors in Health.—Food and good nourishment are not however the only factors that automatically lead one to health. We need something more than that: *fresh air, sunshine, exercise, rest or sleep, and cleanliness.* Food when ready for eating contains a large amount of water; and some more water is essential for the circulation of the food constituents in the body and for the elimination of waste products. It is easy to understand therefore that *water* is indirectly a food. Few people however realize that fresh air and sunshine are also important foods. The first one contains oxygen which helps to build up certain substances in the body and break down all food and body-substances to harmless simple substances like water and carbon dioxide gas. Sunshine by its direct action on the skin, takes a prominent part in the manufacture of an important Vitamin for the construction of bone, muscle, blood and the organs of the body. Almost every one of us has experienced the languishing effect of closed stuffy rooms and has seen how pale and devitalised the plants reared in the dark are.

The influence of exercise in the building up of health and strength, and in the proper utilization of food-material is well-known; but, little known is the influence of adequate sleep and rest, especially that of rest. Rest should not have that limited meaning of complete physical and mental relaxation, but includes in it, hobbies and pastimes where thoughts are turned to other engrossing subjects and faculties, other than those involved in work and exercise, are awakened.

An equally important factor is that of cleanliness, by which we mean cleanliness of the body, both internal and external, and that of the house and its surroundings. Neglect in obeying the calls of nature leads to bad habit-formation and stagnation of waste matter in the body which, in turn, has an evil influence on health. Cleanliness of the skin and clothes, of household utensils and of the food and water, help the beneficent action of an adequate and balanced diet. Cleanliness of the house and its surroundings have led to

decrease in morbidity and mortality due to epidemic diseases and have raised the general standard of health. In the study of Diet as an aid to good Nutrition, therefore, it is everyone's duty to remember that the beneficial effects of a good diet can be rendered null and void if proper attention is not paid to the above mentioned factors of fresh air, sunshine, exercise, rest or sleep and cleanliness.

Good food is the key-stone of health. A meal that gives full satisfaction, is well-balanced and is varied in its contents, is a necessity for persons who desire to lead an energetic life and to maintain a high level of capacity for work. To Indians who are normally underfed, this may appear as overfeeding and an extravagance. They have, through decades, lived on an insufficient ration and have adapted themselves to low levels of vitality. Their powers of digestion and resistance are now so impaired that they hardly realize the under-feeding. There is thus a greater need of giving them a thorough shaking up and bringing home to them the advantages of correct feeding. What follows hereafter is but an attempt to show what kind of foodstuffs and how much of each he should use per day and how he should prepare the daily menu within the limits of the money he can afford to spend on food.

Functions of Food.—The function of food is to help the body (1) to grow, (2) to supply energy and heat for the internal functions of the body, (3) to supply energy for undertaking outside labours both physical and mental and (4) to repair the body. · While growth comes to a stop in youth, the internal organs have to be kept in repair in all periods of life, but much more so in old age. The human body is often compared to a motor-engine where the production of energy and heat alone are in question; for, the engine can neither grow its parts nor repair them when worn out. The engine can be stopped at pleasure to avoid wear and tear, and to allow time for the repair of the same. The human engine keeps on working night and day so long as there is life, and its growth and repair are obligatory functions that have to be carried out through its own resources and while other functions are being performed. They both require fuel, water, a good supply of fresh air and some regulating mechanism for the machinery to keep on turning without requiring constant attention.

Food-fuel.—The body, like the machine, produces heat and energy by burning the absorbed food-fuel; as compared with a machine, it is the best energy-producer. The work performed by an engine is equivalent to one-tenth of the heat produced. In the human machine, double the amount of energy is produced for the same quantity of food-fuel burnt. The amount of the heat and energy evolved can be calculated from the amount of food-fuel burnt in the body. The accepted unit for this calculation is a Calorie, which

is the amount of heat necessary to raise the temperature of one litre (35 ozs.) of water by one degree centigrade.

Calorie Requirements.—The amount of heat and energy required for an average adult male person during 24 hours, even when he is lying down absolutely quiet or is asleep, is 1,700 calories. It indicates the amount of heat supplied for maintaining the body-temperature during 24 hours, the energy required for the working of the heart, the chest-muscles during respiration, the movements of the intestine for digestion and the secretion of the digestive fluids, and for the maintenance of that process called "life". This is the minimum requirement of the human body, below which, life cannot be maintained. It is the need of the basic metabolism. Over and above this, we require food to provide energy for our daily work and it is this amount that varies within wide limits according to the work we do, or the ideal we have in view. An average man, doing six hours moderate work, requires a total of 2,600 calories and a woman 2,100 calories, i.e., four-fifths that of a man. Those who perform heavy labour require 3,000 calories or more.

The Chemical Nature of Our Food and of Our Body.—Food is not however something that has a uniform fuel-value for a given quantity. Its value varies according to the nature and quantity of the food-stuffs used, e.g., cereals, pulses, vegetables, milk, meat, etc., and can be accurately calculated only if the chemical nature of the food-stuffs is known. This knowledge is also of interest in order to understand the close similarity between constituents of our food and of our body, and how easily one can change into another. Our body apparently consists of bones, muscles, brain, liver, spleen, heart, lungs, etc., a variety almost as large as that in food-stuffs. There are six main constituents however in both our body and our food—Proteins, Fats, Carbohydrates, Salts, Vitamins and Water. The body produces certain glandular secretions which control and stimulate the functions of the body. The plants likewise produce certain similar substances called Vitamins and Enzymes, which also serve as regulators of the body functions; these are both protein in nature.

Proteins are complex substances containing many of the elements in nature, carbon, oxygen, hydrogen, nitrogen, potassium, sodium, sulphur, etc., and their number is almost infinite according to the number of arrangements of molecules of the elements they contain. They may be compared to the mosaic figures seen through a kaleidoscope, whose variety and arrangement are infinite, even though the original coloured pieces are few in number. The proteins are essential for life and are the chief constituent of every cell in the body. When proteins are broken down in the intestines by the action of intestinal juices, the first products in this cleavage are amino-acids, and the

end products in the body after assimilation are urea and uric acid found in the urine, water given off by the skin, lungs and kidneys, and carbon-dioxide gas thrown out by the lungs. It is during this incomplete breaking down process that it produces both energy and heat equivalent to 4·1 calories for every gram burnt (100 gms. = 3½ ounces; or 1 oz. = 28½ gms.). From the amino-acids derived from the proteins in food-stuffs are formed various complex proteins for the organs and muscles of the body; the protein in the cell is called protoplasm.

Animal Proteins.—All proteins are not alike in their nutritive value; for, their structure depends on the amount and varieties of amino-acids present in the protein. Even meat taken as food, cannot straightaway be converted into muscle of the body; it has to be broken up into amino-acids and re-built into muscle. But this process is much easier than the one where muscle is to be built up from the protein of cereals and pulses. That is why animal proteins rank high in nutrition in comparison with vegetable proteins. There are about 20 amino-acids; some amino-acids like lysin and tryptophane are important constituents of the proteins of the human body. Proteins which contain the amino-acids essential for the building of body-proteins are, therefore, more valuable to the body than any others. Milk, eggs, meat and fish are good examples of first-class proteins. The biological or nutritive value of a protein is the amount of capacity it possesses in building up of the body. Since animal proteins are likely to contain all the constituents necessary for the building up of another animal body, they are classed as first-class proteins; but because they are costly, a limit is placed to their quantity in the daily meal. This useful limit varies between 30 and 50 percent. The obtaining of this quota would be rather a problem impossible of solution with the vegetarians, if milk had not been allowed in their dietary.

Fat and oils are simple substances formed from two elements only: Hydrogen and Carbon. Three important fats are found in the body and in plants: olein found in olive fruit, palmitin found in palm fruits and stearin a solid oil of which candle-sticks are made. The oils in the food are absorbed as such, or by slight splitting up into glycerin and fatty acid and reforming again in the body. They serve as fuel to the body, to give heat and energy equivalent to 9·3 calories for every gram of fat burnt. In the body, they prevent the dissipation of heat, protect it from injury, help the absorption of calcium and being solvents of important vitamins A, D and E, are highly valued for their vitamin content. During burning, they are converted to carbon-dioxide and water and are thus eliminated by the lungs, kidneys and skin.

Animal Fats.—The essential difference between animal fats and vege-

table oils is the presence of the oil-soluble vitamins A and D in the former. For the vegetarians, the milk-fat partly supplies these vitamins, if the milch animals are properly fed, 30 to 50 percent of animal fats should be present in the diet to ensure an adequate supply of these vitamins. Cocogem and similar artificial ghees are no better than ordinary vegetable oils from which they are prepared.

Carbohydrates are equally simple substances formed from three elements: carbon, hydrogen and oxygen. As they already contain some oxygen, they give off, weight for weight, less heat and energy than that given off by fats. Their ultimate products after burning are also carbon-dioxide and water. One gram of carbohydrate gives off 4.1 calories. Their two important divisions are starches and sugars. Cellulose, the covering of plantcells, is also a carbohydrate, but is utilized for nutrition only in the herbivora and not in higher animals or man.

Salts do not burn and therefore give off no heat or energy. They are derived from many of the elements:—potassium, sodium, magnesium, phosphorous, chlorine, iron, sulphur, iodine, manganese, fluorine, etc. They are mostly found in bones and, as we have seen before, many of these elements are present in proteins as well. All of them are essential for the proper functioning of the organs. Calcium, for instance, is not only required for bones but is also necessary for the proper contraction of the muscular tissue of the heart, intestine, etc. Bile salts are important aids in digestion. Iron is mainly responsible for the supply of oxygen to the internal organs of the body; and Iodine, a constituent of the thyroid secretion, helps to regulate the body-temperature. Water is essential for the maintenance of the body and the carrying out of its functions. It has no fuel-value.

Vitamins.—The emphasis laid on Vitamins in the lay literature is somewhat misleading. All the components of food mentioned above are important in their own way. The chief aim of properly constituted diets is to aim at their inclusion within certain proportions. Vitamins are substances found in food-stuffs which though small in quantity serve to stimulate and regulate the functions of the body. They are named after the letters in the alphabet. Some of these, A, D, E, are fat-soluble and some, B and C, are water-soluble. A large store of Vitamins A and D is found in liver-oils, especially those of fish. Small fish who eat plant-life in water, obtain the vitamins from these plants; large fish eat these small ones and the whole store of vitamins A and D, is thus automatically available to the bigger fish and is stored by them. Body-fats also contain these vitamins.

Vitamin A gives strength to all the mucous membranes in the body and prevents their disease, such as of the lungs, intestines, eyes, etc. Vitamin

D is necessary for the calcification of bones, which otherwise become soft and spongy, and very easily break or bend as in rickets and osteomalacia. Vitamin D is also produced in the body by the direct action of sun's rays on the skin. Animal fats are good sources of these Vitamins. The yellow colour in grains, fruits and vegetables, e.g., carrots, mangoes, etc., indicates their richness in Vitamin A. Artificial ghee, e.g., Cocogem, does not contain any Vitamin D. Vitamin E is found in the embryo of cereals and pulses; it stimulates the procreative functions in animals and nourishes the fœtus. The embryo in pounded rice is usually detached and thrown away with the bran. Care should therefore be taken to save it for consumption. Broken rice (Kani कणी) is in great part made up of these embryos. Vitamins B and C are water-soluble and are mostly obtained from plants. Vitamin B gives tone to the intestinal muscles and prevents constipation; it tones up the heart and prevents Beri-beri; it also keeps the skin and the nerves healthy and prevents neuritis. The richest sources of this Vitamin are unmilled cereals, pulses and nuts (see Appendix). Vitamin C prevents scurvy and diseases of the blood; recently it has been found to be very useful in many infections, e.g., pneumonia. Enzymes are also present in minute quantities both in food and in glandular secretions of the body, and help to break the food substances down during digestion. Fresh green vegetables, sprouted grains, lemons, oranges, "Amla" (Phyllanthus emblica) are rich sources of this vitamin. Vitamin C is easily destroyed by heat and exposure to air.

Balanced Diet.—Having mentioned before the daily requirements of an adult man in calories and the calories yielded by each gram of the food constituent, protein, fat and carbohydrate, it is now necessary to determine the quantity of each of these that ought to be taken to make the diet a balanced one. Our food ought not to consist of proteins alone or of fats or of carbohydrates alone as each one of them taken in excess causes harm to the body and is a waste. It would be folly to use the first (proteins) for obtaining heat and energy alone; the last two are useless for the purposes of growth and repair. Improperly constituted food, and not merely insufficient food, is the bane of India.

Protein Requirements.—As protein is the most important item for the body, the consideration of its quantity requires our first attention. Essential activities like those of circulation and respiration are continually going on in the body; during these processes, wear and tear of tissues is necessarily taking place and means the continuous breaking down of protein material in the body, whether we take in extra protein as food or not. This represents the basic need of good protein. The diet must therefore contain enough protein to supply this daily basic need and some more to make the body fit for extra

work and to keep it in trim. In adult life 70 grams suffice, half of which ought to be in the form of animal proteins. This would afford about 285 calories. The daily protein requirements per age, are as follows: 50 gms. upto 6 years; 60 gms. upto 9 years; upto 17 years 70 gms. for girls and 80 gms. for boys; 55 gms. for women. This scale can often with advantage be exceeded. As will be seen from above, children require more of the growth-promoting food, viz., protein, a fact, which the heads of the family often forget. Women during pregnancy and lactation similarly require at least 25 per cent. more protein, mostly animal, as new tissue is largely constructed from protein constituents alone.

Fat Requirement.—The second important item is fats and oils, as fats contain soluble vitamins. The requirements are the same as those for proteins and account for another 650 calories. Carbohydrates are the body's chief sources of energy, especially among the poor, with whom cost of diet is a primary consideration. 400 grams of starches and sugars supply the rest of the 1,650 calories required for the daily diet. (Total calories 2,600).

A Balance Diet.—Such is one that contains the different components of food in definite proportions. For an average man it should contain 70 gms. of proteins, fats and oils, half of which should be of animal origin; it should also contain 400 gms. of carbohydrates. If proper selection is made and a variety of food-stuffs commandeered, all the requisite quantity of salts and vitamins can be obtained without laying out any extra money on them. The difficulty in formulating "cheap balanced diets" lies in the high cost of adequate amounts of animal proteins and fats.

Practical Considerations in a Balanced Diet.—The above scientific and theoretical calculation of constituents has to be converted, in practice, into the routine food-stuffs obtainable in the bazaar and involves the consideration of the chemical constituents of such food-stuffs.

Food Analysis Tables.—Very few food-stuffs are chemically single substances; egg-albumin is a pure protein; glucose is a pure carbohydrate. Most of them, cereals, pulses, milk, vegetables, meat, fish, etc., are mixtures of two or more chemical constituents whose proportion is different in each variety of food-stuff; some are rich in proteins, some in fats and some in carbohydrates. They also differ in their salt and vitamin content. The number of calories obtainable from each for a given weight of the food-stuff varies with the nature and amount of the constituents. A knowledge of the quantities of the constituents of the various food-stuffs is essential in the construction of a good and balanced diet. We have necessarily therefore to take the help of the Food Analysis Tables worked out by scientists or get the dietary constructed by one who knows the subject. (See Appendix.) One must also remember that

though the calorie value of two food-stuffs may be the same their biological value and their cost have always to be taken into consideration. The protein of maize does not contain two important amino-acids, viz., Lysine and Tryptophane; it is therefore inferior to wheat in nutrition, which has the same calorie value and contains these amino-acids.

Food Groups.—The food analysis tables show that food-stuffs can be grouped together. Cereals, pulses, nuts, meats, milk are examples of broad-groups, where the individual food-stuffs show little variation from the average analysis of that group. This permits variety in selection and eliminates the possibility of such deficiencies in quality as are seen in maize. Mixtures of food-stuffs have the further advantage of making up the deficiency in the constituents of one food-stuff by profusion of the same in another and relieve monotony. A combination of rice and pulses has, weight for weight, more nutritional value than either of them. (see Appendix, Food-Groups.)

Roughage.—Various vegetable food-stuffs, especially vegetables, contain more or less indigestible cellulose and fibrous tissue, which has no calorie value in man. This however serves the useful purpose of moving the digestible portion of food along the whole length of the intestinal tract and presenting it to the action of intestinal juices. As an aid to digestion and to removal of waste matter as faeces, roughage acquires great importance in every diet. Man's digestive tract stands intermediate between that of the herbivora and the carnivora, and cannot function properly unless rough indigestible material like that of cellulose is present in the food.

Wastage.—The quantities given for the food constituents are net, and represent the edible portions. Experience shows that there is wastage in the kitchen during the preparation of food, during service and as remnants on the plates; about 7 per cent. should be allowed for this wastage. The quantities to be purchased therefore from the bazaar should be 75 grams each of proteins and of fats, and 430 gms. of carbohydrates. The total gross calories should be 2,780 instead of 2,600. In arranging the daily dietary, a study of the food-stuffs available locally should be made with reference to their cost and the season in which they grow best, for, it is only during the season that they contain the maximum nourishment and have maximum vitamins.

Construction of a Balanced Diet.—There are two classes of people in India: (1) Those who take milk, meat, fish, eggs, etc., and are commonly called *Non-Vegetarians* and (2) those who allow milk only as an animal food and are called *Vegetarians*. In constructing a dietary for each of them, the growth-promoting foods, i.e., proteins, are selected first, then the protective foods, i.e., fruits and vegetables, etc., and last of all the energy giving foods, i.e., oils and carbohydrates, the object being that growth and maintenance of the body

should have first consideration, and if anything in the diet has to be sacrificed on economic grounds, a cut may be made according to necessities in the energy giving foods.

Non-Vegetarian Diet.—Milk 9 ozs., meat, fish, etc., 2 ozs., rice 6 ozs., wheat, jawar, etc., 9 ozs., pulses 2 ozs.; oil seeds ½ oz.; these would yield 24 gms. of animal proteins and 58 gms. of other proteins. They also give 96 gms. of animal fats, 15 gms. of other oils and 365 gms. of carbohydrates. We next take fruit and root vegetables 5 ozs. and leafy vegetables 3 ozs., as these are generally considered to be sufficient as protective foods. These yield 2½ gms. of good proteins and 20 gms. of carbohydrates, and would raise the total of proteins to 85 gms. Last of all we take the energy foods. 1¼ oz. of oil would bring the total of fats and oils to 76 gms., and 2 ozs. of jaggery or sugar would give a total of 440 gms. of carbohydrates. There are in this diet 27 gms. of good proteins out of 85 gms. and 26 gms. of good fats out of 76 gms. The diet, balanced in its constituents, contains liberal amounts of proteins, salts and vitamins, has variety and plenty of roughage and allows for good growth in children. Its cost is about Rs. 6/8 per month per man. Condiments and fuel are excluded from the above calculations. (See Appendix.) The monthly cost is the minimum for the above diet. Those who can afford more, should certainly spend it on milk, eggs and leafy vegetables, and make proportionate reductions in cereals and pulse.

Vegetarian Diet.—Instead of meat and fish, take 9 ozs. of milk to yield an equivalent of good proteins and diminish the vegetable oils and sugar by half an ounce each. The cost of diet is about a rupee more. (See Appendix.)

Arrangement of the Daily Menu.—Some of the above food-stuffs may not provide a good *helping* at a meal. As purchases are usually made for a week or a month, it is possible by judicious adjustment and variation, to have a good helping of every food-stuff at least once a week. Meat, for instance, may be purchased once or twice a week and wheat or rice be reduced proportionately on those days. Helpings of the varieties of pulses and vegetables can be similarly adjusted.

Food Requirements of a Family.—Diet calculations for a mixed family of men, women, children, pregnant and lactating mothers, and old persons require further adjustments as the units given above are usually assessed as fractions of those of an *average man*. The needs of women are less by one fifth as has already been explained; this is due to their small and delicate build and absence of severe exertion. Their increased needs during *pregnancy* and lactation have already been pointed out. All the organs in the body receive, during pregnancy, an added stimulus as all processes of nutrition work on a higher plane. The biological value of the same quantity and quality of food is

higher therefore in a pregnant woman and accounts for her increased weight, and bright and cheerful appearance. 2,400 calories is considered adequate for her new needs. During lactation, however, a definite increase in quantity of food is necessary. Every ounce of milk given to the baby accounts for 20 calories of her food and for much of her protein intake. The baby requires 50 calories for every pound of its body-weight; two to six hundred calories are therefore required for nursing a child until it is six months old. This can only be made available by increasing the mother's diet upto 25%, i.e., from 2,400 to 2,800 calories. The needs of calcium, phosphorus and iron are also greater in lactation and have to be supplied in a particular way, if the baby at breast is to remain healthy. "A tooth for every child" is an accepted fact in India, so poor in calcium is the diet of the average mother. The best source of calcium is again milk. The addition of milk, vegetables and fruits to the dietary of the mother usually makes up for this deficiency.

The quantity of food should also be adjusted according to the height and weight of the individual and the nature of the work he or she has to do. This demands an adjustment in calories. Dock labourers who have to carry heavy weights, soldiers on active service, etc., require as many as 4,000 calories.

Light work	...	...	75 calories per hour
Moderate work	...	...	150 ,, ,, ,,
Hard work	...	...	300 ,, ,, ,,
Very hard work	...	...	500 ,, ,, ,,

In childhood, up to adolescence, when growth is predominent, proportionately more food has to be allowed than the height and weight would permit; an increase of 25% in proteins is also justifiable during this age to enable an adequate formation of the tissue-cells and bone. The factor of sex comes into operation after 11 years of age. The diets of children which do not contain a liberal portion of animal proteins should be considered unsatisfactory. They should be given at least 8 ozs. of milk every day to accelerate their growth, improve their health and increase their sense of well-being. In adult life there is a balance between growth and wear; food is therefore necessary only for replacement. In old age the needs of the body get less and less, growth comes to a stop and only the wear has to be replaced; less food is therefore required in advancing years.

Age			Total Calories in Units	Total Proteins in Units
Upto 3 years	...	...	0.3	0.6
,, 5 ,,	...	...	0.4	0.8

Upto 7 years	... ...	0.5	0.9
,, 9 ,,	... ...	0.6	1.0
,, 11 ,,	... ...	0.7	1.1 (Girls)
,, 14 ,,	... ...	0.8	1.2 (Boys)
Adult female	... ...	0.8	0.9
Adult male	... ...	1.0	1.0
Old males	... ...	0.8	0.8
Old females	... ...	0.7	0.7
Pregnancy	... ...	0.9	1.0
Lactation	... ...	1.1	1.2

With the above information before us and the realization of the adjustments to be made for each individual, we next proceed to calculate the units required for the family and adjust the daily menu accordingly. The needs of individuals for increased total quantity, the quantity of protein and the proportion of animal protein, should in no case be lost sight of, and separate cooking of dishes is advisable if there is likely to be any confusion.

Aids to Nutrition of the Body.—Method of Preparation: Much depends on the method of preparation of food, retaining their flavours and essential constituents, and on the method of serving the food. Food should be appetising to taste, smell and sight in order to excite the digestive secretions. The calorie value of food increases with its thorough cooking and its immediate availability for the action of digestive juices. The flour of grain, has higher nutritive value than whole grain, especially if grain is raw or half-cooked. But such aids as excessive cooking, the addition of sodabicarb or baking powders should be avoided as they destroy the vitamins in the food. Cookers, where cooking is carried out under closed covers and with moderate heat applied for a short time, are best as they help to retain the flavours, ensure thorough cooking and preserve the vitamins. An attempt should be made to retain the natural flavours and develop a taste for the same. Addition of flavouring agents, condiments and salts should be always restricted. Crude food as obtained from the bazaar has to undergo several processes before it is built up into the constituents of the body. It requires cleaning to free it from dirt and cooking to make it sufficiently soft and finely divisible. Mastication, digestion, absorption, assimilation and storage in the body are further steps in the process of nutrition.

Cooking and mastication are processes for the mechanical breaking down of food-stuffs and rendering them suitable for the action of digestive fluids. Digestion is the process where a chemical breaking down of food-substances occurs to render them suitable for absorption into the body.

Proteins are broken down to amino-acids, fats to glycerine and fatty acids, and carbohydrates to the simple sugar, glucose. The greater the digestibility of food, the lesser is its cost and lesser is the strain on the digestive organs. Absorption in the intestines is to a great extent a selective process, where substances if present in a suitable form are only taken up. What cannot be broken down or absorbed passes out as fæces. Assimilation is the process by which the simple substances absorbed from the intestines are built up again into complex molecules of muscle, brain, bone, liver, blood, etc. Some of the absorbed substances if found unsuitable for the body are either stored as fat or are broken down and thrown out in the urine. Starches and sugars when taken in excess are either built up into fat or are thrown out as sugar in the urine. Excess of proteins similarly cause increase of urea and uric acid in the urine. Food must also be "satiable"; it should give the satisfaction of having had a full meal. Proteins and fats can give this satiability; carbohydrates should therefore be cut down, if necessary, to give food this value. Likes and dislikes, sweet or pungent things also aid satiability.

Aids in Dietating.—It is worthwhile considering certain aids in dietating which increase the nutritive value of the same food-stuffs and lower the cost. Ghee and butter need not be manufactured at all; either whole-milk or butter-milk made from whole milk should be used as they provide better vitamins and avoid the waste of skimmed butter-milk.

Bran of rice and other grains are richer in important proteins, vitamins and salts than the inner starchy layer, especially in Vitamin B_1 and B_2. During its removal in milling, there is also the danger of losing the valuable embryo which contains Vitamin E. Bran need not therefore be removed; if whole rice and other grains are ground down into flour and turned into bread, they would prove more economic and more nutritive than the highly milled material now in use. Parboiled rice is an excellent device to preserve the above advantages and can be obtained as such in the bazaar. Sprouting of the pulses and cereals by soaking them in water increases their digestibility by producing Malt Ferment and Vitamin C in them. They can therefore replace in part the leafy vegetables.

Salad.—Eating at least an ounce or two of vegetables as salad would help the formation of the jaw and provide the whole of Vitamin C. It is good to remember that this vitamin is easily destroyed by exposure of the food-stuffs to air. Fruits and vegetables should therefore be cut only when required; the skin of fruits is the best preserver of Vitamin C.

Common Salt.—This is needed by the body for many purposes. It maintains the correct composition of blood and the amount of water in the tissues. It is the source of the hydrochloric acid in the stomach secretion. Vege-

table foods contain much of potassium salts, but not enough of sodium. Meat eaters need not take any salt as meat contains enough of sodium. Too much of salt is nearly as bad as too little of it because too much injures the kidneys and the blood vessels. Ground-nuts and sesame seeds should find a place in the daily diet as they contain Vitamin B and good quality proteins, equal in value to those in soya-bean. Oil-cake expressed from cleaned seeds is a rich protein food; if clean edible cake is not available, at least half an ounce of these oil-seeds should be included in the daily diet.

Skimmed Milk.—There appears to be no chance yet of starting this industry in India. It may be used when whole milk is not available. Little milk is better than none. The skins of many fruits (bananas, mangoes, etc.,) contain rich nutritive substances. They should be boiled and squeezed. The pulp may later be discarded. The use of spirituous fluids within limits may be permitted as an aid to digestion, They have the same value in a diet as other artificial flavouring agents or condiments.

Lunches.—Too long intervals between meals are harmful, for theoretically the stomach is never at rest. In the experience of school authorities, frequent feeding in small quantities yields better results in children both in mental and bodily health. It is an observation worth copying in our daily routine.

Deficiency Diseases.—No study of the dietary is complete unless one has some knowledge of the harm done to the body by excess or deficiency of food and its constituents. Our body is able to tolerate occasional variation in diet but a long continued excess or deficiency of one or more components will impair the growth of the young, and is frequently responsible for such complaints as fatigue after slight exertion, headache, a low grade of anæmia, dyspepsia, intestinal disorders, unhealthy skin and an increased tendency to infectious diseases. If the defect be great it may lead to tickets, beri-beri, severe anæmia, decayed teeth, gastro-intestinal diseases, diabetes, tuberculosis, etc. Excessive food throws enormous strain on the digestive organs and leads to deposition of fat in various parts of the body, not only external but also internal organs. Deposition of such fat in the heart, for instance, leads to its debility and weakness. Excess of proteins throws a strain on the kidneys and may cause its disease or lead to gout. Excess of starch or sweet substances may cause the appearance of sugar in the urine and ultimately lead to diabetes. The diet of the well-to-do shows an excess of proteins or fats, and contains less of salts and vitamins, because they take highly refined and preserved foods. Polished rice and milled wheat flour are instances of such perverted taste. The poor man's diet contains an abundance of starchy foods. Both are thus defective in their own way and require adjustment. Deficiency of diet is very commonly seen in badly fed and marasmatic

children of the illiterate poor. Retardation of growth and tendency to catch any incidental disease is often noticed in them. A purely vegetarian diet is only to be found in the poor classes who cannot afford the high cost of milk, meat or fish. There are such instances of communities who have never tasted milk or meat and have yet grown into robust youth. Time alone can tell whether they can withstand the strains and stresses of this world, attain longevity and bear healthy progeny.

Protein deficiency causes stunted growth, poor physique, poorly developed muscles, lack of vigour, low powers of endurance, incapacity for hard work both physical and mental, rapid advance of old age, short life and diminished resistance to diseases like tuberculosis, dysentery, malaria, etc. Fat deficiency causes water to accumulate in the tissues and brings on œdema. The tendency to microbic infections is also increased. Calcium deficiency causes rickets in children, osteomalacia in pregnant and lactating women, and upsets the absorption of phosphates as well. Iron deficiency causes anæmia. Iodine deficiency causes enlargement of thyroid gland in the neck, œdematous condition of skin, lethargy, mental dulness and low temperature. The most spectacular, however, are the results of deficiency due to vitamins, and has been alluded to above. Osteomalacia or bone pains and softening of bones in pregnancy are due to absence of Vitamin D and Calcium in the diet. Night-blindness, keratomalacia, pellagra, stone in bladder and kidneys are due to lack of Vitamin A. Bleeding tendencies are noticed with Vitamin C deficiency. Sterility and tendency to abortions are seen in Vitamin E deficiency. The complaints due to such deficiencies are easily curable. Protective foods (vegetables) not only cure these complaints but also increase the resistance of the body against diseases in general.

Idiosyncrasy.—It is also true that some foods cannot be tolerated by some persons and immediately cause urticaria (itching), asthma, cough, indigestion, etc. Even milk, eggs and wheat are found to disagree with certain persons and require careful exclusion.

Good diet can give us health, strength, longevity, the power to produce healthy progeny and the power to resist outside infections, if it is in proper proportions and in adequate quantities and contains a large amount of protective substances.

APPENDIX

Food-Groups

1. Milk and its products.
2. Animal-Foods:—Meat, liver, etc., poultry, fish, eggs.

3. Cereals:—Rice, wheat, bajri, jawar, maize, nachani, ragi, barley (jawa).
4. Pulses and Beans:—Bengal gram (chana), horse-gram (kultha), lentil (masur), beans, dal, soya-bean, mung, black-gram (udid), field-bean (val).
5. Nuts and Seeds:—Almonds, ground-nut, linseed, walnut (akrod), gingelly (til), cashew (kaju), pistachio.
6. Tuber and Root Vegetables:—Potato, carrot, radish (mula), yam, onion, garlic, turnip.
7. Fruit Vegetables:—Tomatoes, cucumber, pumpkins, brinjal, knol-khol, bhendi.
8. Leafy Vegetables:—Cabbage, cauliflower, spinach (palak), amarantus (lal sag), coriander, curryleaves, fenugreek, methi, mula.
9. Fruits and Berries:—Mangoes, bananas, pine-apple, strawberry, amla.
10. Vegetable oils:—Cocoanut-oil, gingelly, linseed, ground-nut, kardai, mustard, cocogem, vanaspati, olive, cotton-seed, almond.
11. Animal Fats:—Beef-fat, lard, butter and ghee, fish liver oils.
12. Sugars:—Beet sugar, goor or jaggery, honey, sugar-cane.
13. Starches:—Tapioca, sago, arrow-root.

TABLE OF FOOD-GROUP VALUES PER OUNCE

Group	Proteins in gms.	Fats in gms.	Carbohydrates in gms.	Calories per ounce
1. Milk	0.3	2.1	1.4	30
2. Meat	6.2	2.0	0.0	43
3. Cereals				
Rice	1.6	0.2	26.5	113
Wheat, etc. ...	3.0	0.5	20.0	100
4. Pulses	6.0	1.0	16.0	100
5. Nuts & Seeds ...	5.0	16.5	3.6	183
Ground Nut ...	7.3	10.9	6.9	155
6. Tubers	0.5	0.05	6.5	28
7. Fruit vegetables	0.3	0.09	1.5	9
8. Leafy ,, ...	0.4	0.06	0.8	6
9. Fruits & Berries	0.2	0.1	3.5	15
10. 11. Oil & Fats ...	0.0	28.0	0.0	252
12. Sugar	0.0	0.0	28.0	112
13. Starches ...	0.1	0.0	25.0	100

RICHNESS OR POVERTY OF FOOD-CONSTITUENTS IN VARIOUS FOOD-SUBSTANCES

1. *Good Protein Foods:* Milk and its products, eggs, meat, fish, internal organs, green leafy vegetables, bran of cereals.
   Fair Protein Foods: Cereals, pulses, fruit, tuber and root vegetables.
   Poor Protein Foods: Polished rice, white flour, maize.
   Non-Protein Foods: Sugar, fats and oils, starches.
2. *Good Fat Foods:* Milk and its products, liver-oils, fish oils, red palm oil, egg-yolk, lard, mutton fat.
   Poor Fat Foods: Ground-nut, cocoanut, linseed, gingelly, cocogem, margarine, olive oil.
3. *Good Calcium Foods:* Milk and its products, egg-yolk, nuts, pulses, fruits and leafy vegetables.
   Non-Calcium Foods: Cereals, tuber and root vegetables, starches and sugar, flesh meats.
4. *Good Phosphorous Foods:* Milk, etc., eggs, soyabean, pulses, nuts, wheat, barley, jawar, ragi, spinach, radish, cucumber, cauliflower, carrot, meat, fish.
   Non-Phosphorous Foods: Milled rice, white flour, tuber and root vegetables.
5. *Good Iron Foods:* Cereals, pulses, spinach, onions, radish, strawberry, water-melon, cucumber, tomatoes, liver, red meat, eggs.
   Non-Iron Foods: Fats and oils, sugar and starches.
6. *Good Chlorine Foods:* Common salt, bananas, dates, tomatoes, pineapple, peas, green leafy vegetables.
7. *Good Iodine Foods*: Green leafy vegetables, fruit cloves, sea-fish, fish oils, liver oil.
8. *Good Vitamin A Foods*: Liver oils, fish oils, egg-yolk, butter, meats and animal organs, green leafy vegetables, red palm oil.
   Fair Vitamin A Foods: Yellow root vegetables, e.g., cabbage, tomatoes, yellow maize, sprouted gram, linseed, ragi.
   Poor Vitamin A Foods: Pulses, rice, wheat, jawar, chillies, nuts, vegetable oils, orange juice, bananas, onion, potato, lard.
   Non-Vitamin A Foods: Polished rice, parboiled rice, white flour, cocogem.
9. *Good Vitamin B Foods:* Yeast, eggs, liver, tomato, lettuce, radish top, spinach.
   Fair Vitamin B Foods: Cereals, pulses, nuts, green leafy vegetables, fruit and tuber vegetables, oranges, papaya.
   Non-Vitamin B Foods: Polished rice, white flour, animal fats and vegetable oils, starches and sugars.
10. *Good Vitamin C Foods:* Cabbage, spinach, sprouted pulses, limes and oranges, tomatoes.

Fair Vitamin C Foods: Carrots, potatoes, beans, vegetables, marrow, sprouted beans, pine-apple, peach.

Non-Vitamin C Foods: All boiled foods, milk, onion, water-melon, apples, pears, bananas, eggs, cereals, sugar, starches, tinned fruits.

11. *Good Vitamin D Foods:* Milk and butter, egg-yolk, fish oils, liver oils.

Non-Vitamin D Foods: Vegetable oils.

BALANCED DIET (*Minimum Cost*)

Diet	Milk	Meat, Fish	Rice	Wheat, Jawar	Pulses	Oilseeds	Fruit, root, Tuber Vegetables	Leafy Vegetables	Fats, Oils	Sugar, Jaggery	Proteins gms.	Fats gms.	Carbohydrate gms.	Calories
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	gm.	gm.	gm.	
Non-Vegetarian	9	2	6	9	2	½	5	3	1¼	2	85	76	440	2860
Vegetarian	18	...	6	9	2	½	5	3	¾	1½	88	76	440	2870

A SURVEY OF LANDLESS AGRICULTURAL LABOURERS IN SHENDURJANA BAZAR, A BERAR VILLAGE

J. V. BHAVE

With the progressive ruralisation in India in the recent past, though the numbers of landless agricultural labourers have rapidly increased, adequate attention has not yet been paid to their many problems. In this article the author, who spent several months in making an intensive study of a typical Indian village, gives the results of his findings and shows ways and means of resolving their many difficulties and disabilities by means of private enterprise.

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AGRICULTURE is the chief occupation in India giving employment to about seven tenths of our population; hence the bulk of our people, nearly 27 out of 38 crores, live in villages which number about 7 lakhs. As the problems which beset agriculture involve the interests of crores of people it is clear that they are of extreme importance to the life of the nation.

Rural society is divided into different groups each with its own problems. The main social classes in a village are composed of the landlords, the cultivators and the agricultural labourers. Each group needs to be studied by itself so as to give a clear idea of the conditions of life and living of the people who belong to it. But attempts at such studies are very rare. Hitherto the problem of Indian agriculture has been tackled as a whole. Two methods have been followed in this study: (1) surveys of typical villages, like Dr. Mann's *Land and Labour in a Deccan Village*, and (2) surveys of large homogeneous tracts, like Calvert's *Wealth and Welfare of the Punjab*. The former method is based on first-hand information and the latter on data collected by others. But no attempt has been made so far to study the different classes of village society mentioned above, especially, the landless agricultural labourers. Very recently Kisans have started to organise themselves in order to improve their conditions. An attempt has been made in this thesis to present facts relating to the life of such labourers in one of the villages of Berar.

Dr. Radhakamal Mukerjee has aptly described the problems of the agricultural labourer in his introduction to *Economic Problems of Modern India*. He says, "The agricultural labourer occupies the lowest rung of the economic ladder, that toiling long-suffering serf, who is the first to suffer from famine, plague, malaria and influenza. He numbers to-day 25 millions, and a single meal, thin gruel and loin cloth are all he can hope for in a year of plenty in India. His average wages in these years of

depression vary from two to three annas per diem in Northern India."

Problems of Landless Agricultural Labourers.—There is a great fluidity of groups in agriculture, while the actual ownership of the means of production, i.e., the land, is much divided. It is especially so in India where there is a sort of influx from above downwards, from the ranks of the owners, small employers or artisans, into the landless agricultural workers. The reverse process where the paid worker forces his way into the ranks of the farmers is very rare. If we look into the census reports we find that in 1931 to every 1,000 cultivators there are 466 agricultural labourers, a very much higher number than 291 to every 1,000 in 1920. In C. P. and Berar the labour population has always been excessive. According to the Census Report of 1911 every 100 cultivators of the province employed 59 labourers. The number is higher than in all the other Indian provinces. This is mainly due to the social conditions prevailing there. It contains the largest section of the depressed classes and aboriginal tribes and, hence, has the largest number of field labourers.

Formerly some of the landless agricultural classes carried on handloom weaving as one of the main industries. But during the past 50 years that industry has died out completely, adding them to the already excessive landless agricultural population.

The multiplication of landless labourers from decade to decade is, on the other hand, the surest symptom of agrarian unsettlement in India which expresses itself in the fury of petty thefts and bazar looting. The landless class, newly risen to importance in India, floats about in the country side, lowers agricultural efficiency, and prevents the introduction of machinery or improvement of agricultural tools and implements; it is pushed into the cities where it lowers urban wages and impedes the development of organized unionism, housing improvement and civic amelioration. Low wages naturally affect the standard of living of the labourer and it becomes impossible for him to maintain a higher efficiency of work. As Jathar and Beri observe: "He is bowed down with the heavy and weary weight of many burdens and handicaps, and the wonder is that he still continues to carry on the struggle for existence and is not altogether extinct."

The remedial measures that can be adopted to ease the situation will be of two types. The first solution will be to reduce the burden of overpopulation on land. Industrialization by the State alone will give employment to these labourers in urbanized areas. Secondly, small industries run by electric or machanic power will keep these landless agricultural labourers busy in their own villages and raise their standard of living. Organizations run for the benefit of the agricultural labourers by themselves ought to be started

and encouraged in India. Very recently peasants have become conscious of their own rights and the Kisan Movement is gaining ground in this country. But agricultural labourers do not come under Kisan organizations. Their interests are quite different and sometimes against the interests of the Kisans and there is a need for their separate organization which will fight for the rights of this lowest rung in the ladder of Indian Economic Society.

Physical Environment.—Shendurjana Bazar is in the Tiwsa administrative circle which is one of the important revenue circles of Chandur Tahsil. There is a pucca road going through the village, connecting Tiwsa with Chandur (Rly.). This road meets the main Amraoti-Nagpur Road at Tiwsa. Tiwsa which has a police station, revenue inspector's head-quarters and the junction for the Nagpur, Wardha and Amraoti buses, is 2 miles west and Nagpur 73 miles east. Amraoti district is known for its cheap and well organised motor-bus services which compete with railways, considerably affecting their profits. Shendurjana Bazar is a central village having nearly 20 villages within a radius of five miles. As its name clearly indicates it is a bazar or weekly market place. The weekly bazar which is held on Tuesdays is very large, next in size only to the weekly Amraoti bazar, serving nearly 40 villages.

There is not a single hill near Shendurjana. The village lies on the lowland. The area classified as free grazing ground hardly serves the purpose. Similarly, most of the area which is shown as open space for public use is utilized for the weekly market. There are only four fields having a wet-cultivation with the aid of their respective wells. The river which flows by is too small to be utilized for the purpose of cultivation. However, it is the main source of water-supply in the village for all other purposes. There are about 10 wells on the village site. There is a definite correlation between rainfall and the economic conditions of the agricultural labourers. If rainfall is not evenly distributed the problem of unemployment takes a serious turn. Except for 1935-36 and 1937-38 all the years from 1935 to 1940 were unfavourable for the labourers. During these years there was a shortage of employment and government had to open quarries to give work to these staving labourers.

Population.—According to the Amraoti District Gazetteer of 1911 there were 302 houses with a total population of 1,429 persons in Shendurjana. At the time this survey was carried out, it was found that Shendurjana had 446 houses with a total population of 1,538 (males 758 and females 780). Out of 446 houses 69 are uninhabited, these being vacant or used as shops, godowns, schools, offices etc. Our study, therefore, concerns 377 families residing in 377 houses. Out of the total population of 1,538 persons, 1,493 are Hindus (97.07%), 41 are Muslims (2.67%), and 4 are Christians (.26%).

RELIGION AND CASTE GROUPS

Hindus

Caste	*Total Pop.*	*Caste*	*Total Pop.*	*Caste*	*Total Pop.*
1. Mahar	496	9. Sutar	22	18. Sonar	11
2. Mali	315	10. Kumbhar	21	19. Garpagri	10
3. Kunbi	282	11. Mang	19	20. Rajput	7
4. Teli	48	12. Bhoi	16	21. Gond	7
5. Dhangar	48	13. Gowari	16	22. Kasar	5
6. Khatik	38	14. Chambhar	14	23. Gosawi	4
7. Marwadi (Kshatriya)	36	15. Mhali	13	24. Kalar	4
		16. Varthi	13	25. Burud	4
8. Brahmin	30	17. Lohar	12	26. Halwai	2
				Total Hindus	1,493
Muslims	41	... ...		Total Muslims	41
Christians	4	... ...		Total Christians	4
				Total Population	1,538

According to occupational groups, out of 377 families 43.77% are landholders, 30.77% are agricultural labourers and 11.67% are tenants.

There are two types of labourers permanent and casual. The permanent labourers are employed on a monthly or yearly contract. But they can be thrown out of service at any time by the employers. Only men are employed as permanent labourers and not women. Majority of them are employed on monthly contract and their monthly wages vary from Rs. 3/8 to Rs. 8/- During the year of survey there were 22 permanent adult labourers employed on the monthly contract basis. Generally they are employed for one year. Only some labourers are employed on a yearly contract basis. Most of them serve without taking any remuneration as they work in repayment of previous debts. There was one such case in which the man was serving his creditor for one year in repayment of a debt of Rs. 50/-. The amount varies from Rs. 20/- to Rs. 60/- in different cases. Some permanent labourers are employed as herdsmen or cowboys. For this job, generally, boys are preferred as they can be paid very low wages. There were 8 boys (under 14 years) employed as permanent labourers as cow-boys and their wages varied from 8 as. to Rs. 3/8 per month. Out of the 22 adult permanent labourers two were employed as watchmen.

As compared with the class of permanent labourers, the second group of casual labourers is in a numerical majority. Out of 318 earning workers only 30 are employed as permanent labourers, the rest being casual labourers. Their employment is most uncertain and so they do not know when they

may get a call for work. A labourer is luckly if he finds himself employed for a week without a break.

Housing, Health, Hygiene and Sanitation

Housing of Labourers.—Most of the labourers, except the very few caste Hindus stay on the outskirts of the village. Zadpi Mahars, Dhangars, Gowaris, Khatiks and Bhois stay at the east end; Ladwan Mahars, Chambhars at the west end. The Zaparpur area also accomodates some of the Mahar labourers. The one Christian and three Muslim labourers' families have built their houses in Zaparapur. Most of the lahourers own their houses. Only 11 families do not. These either live in their relatives' or neighbours' houses and none pays any rent. The Zaprapur area is the best from all points of view. Labourers staying here have ample open space around their houses. The lanes are well marked out. Some labourers have raised the ground in one of the lanes for common use. It is always kept in good condition, plastered with cowdung. Having open space round about, these people are in a position to keep fowl or sheep in the courtyard. Next to these labourers come Ladwans of the western end of the village. They too have open space and decent houses. The worst of the lot are Zadpis or Bawnis, huddled up at north-east corner of the village. All the houses are alongside each other. The lanes between two rows of houses are not more than 4 feet in width. If a person comes out of a house, he enters into the one opposite to his own. The houses are very low, most of them being 4 or 5 feet in height at the front wall. One has to bend down low while entering into them. 25% of the houses occupy between 101 to 150 sq. ft. each while 59% have an area between 1 and 150 sq. ft. each. 51% do not have any open space around them but 21% have open space ranging from 1 to 150 sq. ft. each while 11% of the houses are surrounded by spacious open areas covering more than 600 sq. ft. each.

Every house has but a single room. In this room all the drama of life is staged. Cooking is done in one corner, earthen pots rarely filled with corn are piled up in another. A tin kerosene lamp either hangs from the ceiling or is kept on a wooden stand. All the members of the family, young and old, males and females, lead a common life here. The men sleep outside if there is any room except in the cold and rainy seasons. The walls are generally made of mud. Sometimes the labourer gathers the Tur stems, plants them in a line and uses them as the walls. There were six huts of this type at the time of the present survey. These huts are thatched or fixed with kerosene oil tins. This shows the extreme poverty of the owner. The other houses having mud walls are tiled. Most of the repairs are done by the family members themselves but major repairs can be done only if their financial position allows them to do so. Sometimes the walls come down with the rains and these

houses remain without walls for days and years together in the same condition.

The houses are ill-ventilated. There is only one small door; rarely is there a window. The reason given for lack of windows, low roofs and small doors is that they want to protect their small rooms from the rain and from the cold in winter. However, most of the time these labourers are out in the open and so they get their full share of fresh air and sunlight.

In Shendurjana the main source of water supply is the river. There are also three wells supplying drinking water to all the villages except the untouchables. These are disinfected very often by the Servants of India Society Rural Centre Workers. But most of the people prefer river water to that of the wells and the river is used for almost all purposes. Naturally diarrhoea is a common disease. The condition of the public wells is not very satisfactory. Two of them are used as swimming pools and the third one is surrounded by manure pits from all sides. In most of the villages there is at least one well for the whole village and caste Hindus and Muslims get drinking water from it. But the untouchables are not permitted to do so and they have to depend upon other people or upon other resources. Thus all the untouchable labour population has to depend entirely upon the river. The problem becomes serious in the rainy season when the river is flooded with muddy water. During this season the percentage of diarrhoea and other diseases rises especially amongst the untouchables. During the year 1940-41 there was a cholera epidemic in the village and in all 5 deaths occurred among the untouchable agricultural labourers. Serious attention must be paid to this vital problem as 70% of the labour population of this village is drawn from the untouchable castes.

Health.—The health of the landless agricultural labourers, in general, may be said to be good. Most of the time they work hard in the open air which gives them a certain amount of stamina to resist ordinary diseases. Some of them get immuned to certain diseases like malaria after a long period of repeated attacks of the same. Villagers are so ignorant and careless that they are never serious about any illness. Even some of the cholera cases were totally neglected with the result that they ended in deaths.

Malaria has become so common in the villages that nobody takes it very seriously. Defective drainage, dirty surroundings, inadequate diet and inability to realise the value of quinine and dispensary treatment are some of the main causes of the spread of malaria. Even under an attack of malaria with high temperature they keep on working lest they starve.

Skin disease is another very common disease among them. They do not get sufficient water to keep their clothes and bodies clean and they possess no change of clothes. Moreover, people suffering from skin diseases move very freely among others in society and in their homes and thereby

spread the infection. There are 4 cases of leprosy amongst the labourers. Two of them have reached a very advanced stage but they consider it to be a natural phenomenon and inspite of the persuasions of the workers of the S. I. S. Centre they refuse medical aid. All the members of the family live together with these lepers and one can easily visualize the consequences.

Because of the dirty water-supply there are numerous cases of diarrhœa and diseases of the stomach and of the digestive system. The percentage of these diseases is greater amongst the labourers as most of them are Harijans drinking dirty water.

Venereal diseases, which are spreading very rapidly, are hardly referred to the doctor unless the condition becomes unbearable. Some country medicines are always tried before going to the dispensary. Gradually people are being educated in this direction and their unsympathetic attitude towards allopathy is also being toned down. The main causes for the rapid spread of venereal diseases in agricultural labour population are:—1. The break-down of the integrity of castes. There is no proper hold of the caste panchayats now and general demoralization is increasing rapidly. 2. The rates of wages are so low for the female labourers that some of them are tempted to earn more with less amount of work; and employment for such female workers is more or less permanent on the fields of certain landholders. 3. The common belief is that the cure for venereal disease is to have intercourse with a young girl, preferably a virgin. There are girls under 13 years of age in this village suffering from venereal diseases. 4. Clothes of persons suffering from the disease are used in common by the other members of the household. 5. A very liberal attitude is displayed towards these diseases. Some people go so far as to declare that venereal disease is a "man's disease".

Measures are being taken by the District Council Doctor, the Health Visitor and the S. I. S. workers to prevent disease and people of the village are gradually realizing the need of proper medical care.

Work Life of a Labourer

Agriculture is not a part time job. It requires constant attention and care and agricultural operations are carried on throughout the year. Cultivators, peasants and tenants all need the help of labourers to carry on the work. No doubt, there are fluctuations in the demand for labour during different seasons. It depends upon the nature of operations in that particular season. A review of one whole agricultural year, as given in the table below, gives us an idea about the work life of a landless agricultural labourer. It shows us the type of work he does in different seasons, the fluctuations in employment and wages according to the nature of the work done.

AN AGRICULTURAL YEAR

Season	Nakshatra	Hindu month	English month (Approx.)	Nature of work	Demand for labour	Nature of payment	Wages in cash
	Dhanishta Satataraka	Magh	February	Threshing of jwar and tur.	More demand for men.	On share basis 6 to 10 payalees of jwar per 1 khandi or 6 payalees per 1 tifan.	Men 0-3-0 to 0-5-0 per day. Women 0-1-6 to 0-2-0 per day.
	Purva Bhadrapada Uttara Rewati	Falgun	March	Wheat harvest ...	Greater demand for men.	2 to 3 bundles per 100 bundles	Men 0-3-0 to 0-4-0 per day. Women 0-1-6 to 0-2-0 per day.
Summer	Ashwini	Chaitra	April				
	Bharni Krittika Rohini	Vaishakh	May	Summer operations. Repairing boundaries (olangi) ploughing. Harrowing, removing stems of jwar and cotton plants.	For Kunda removing Langi. Male labourers for ploughing and harrowing - generally done by permanent labourers.	Contract basis Kunda removing 16 to 38 Kady (काड्या) per rupee. 1 kady equals 18 s. ft.	Men 0-4-0 to 0-5-0. Women 0-1-0 to 0-1-6. Children 0-1-0 to 0-1-6.
				Manuring ...	Woman labourers for clearing the fields. Child labour.	Clearing the fields—10 to 20 kadya per rupee.	

	Mrig Ardra	Jeshtha	June	Khariff sowing Cotton, groundnut and jwar sowing.	Equal demand for males and females	Daily cash wages ...	Men 0-3-0 to 0-3-6.
	Punarvasu Pushya	Ashadh	July	Interculturing ...	Demand for men.		
Rainy Season	Ashlesha Magha Purva-Falguni	Shrawan	August	Weeding by hand.	Greatest demand for women labourers.		
	Uttara Hasta	Bhadra-pad	September	Preparation for Rabbi crop. Harrowing and ploughing.	Demand for men ...		Women 0-1-6 to 0-2-6.
	Chitra Swati Vishakha	Ashwin	October	Rabbi sowing. Horsegram sowing. Wheat sowing.	Demand for men ...	Daily wages in cash.	Men 0-2-0 to 0-3-0.
	Anuradha	Kartik	November	Cotton picking ...	Great demand for women.	Daily wages ...	Women 0-2-0 to 0-2-6.
				Groundnut ready.	Demand for child labour.		
Cold Season	Jeshtha Mula	Marga-shirsha	December	Cotton picking ...	Demand for Child labour. Less demand for men.	On share basis. 2 Dhadas per 1 maund.	Women 0-2-6 to 0-3-0. Children 0-1-6 to 0-2-0.
	Purv-ashadha Uttarashadha Shravan	Poush	January	Jwar and Tur harvesting.	Equal demand for men and women.	Share basis 2 to 2½ Kudavs (8 seers—1 Kudav) per 1 Tifan.	Men 0-2-6 to 0-3-6.
				Cotton picking ...			Women 0-1-6 to 0-2-0.

318 persons or 69.3% of the total labour population are earning workers. 39 persons or 8.5% of the total labour population are non-earning workers, and 102 persons or 22.2% are dependents. Child labour is not uncommon and 32 children (20.5%) under 14 years are working members of the families. There are 2 boys under 7 years who have to earn their livelihood. Between the age of 7 and 14 years more than 50% of the children are earning workers. Out of the rest 29 (18.6%) are non-earning workers and 95 (60.9%) are dependents. There are 8 children among the dependents attending a primary school, 26 (34.2%) of the total number of girls under 14 years are non-earning workers. Most of them do all the household work when their parents are out in the fields.

The figures given in *Rural and Urban Wages in the Central Provinces and Berar* published by the C. P. Government for the years 1931 to 1940 clearly show that the wages have come down from 5 as. 9 ps. to 3 as. for men and from 2 as. 9 ps. to 2 as. for women in 10 years while the price for jowar has gone up from 5 as. per 8 seers (kudav) to 9.8 as. per kudav during the same period. Thus the economic condition of the labourers is becoming worse every year. At the time of the survey, the average wage for the male labourer was 3 as. and for the female labourer 2 as. per day.

Of the 318 earning workers 140 are males. All of them, however, are not engaged in agriculture. Two of them earn their livelihood by begging. One Mahar has made begging his profession since a long time. Another is compelled to beg as he is incapable of doing any work due to old age. Thus there are in all 138 men whose main occupation is agricultural labour. 32 children (under 14 years) are earning workers. Of the 146 females one runs a bidi-shop. The average income per annum of the male worker from agricultural wages is Rs. 42/- (41.9%), of the female worker is Rs. 16/- (15.9%), and of a child labourer Rs. 9/- (9.3%). The total income derived from agricultural wages is Rs. 8,562–3–0 per annum for 314 workers and the average annual income from agricultural wages is Rs. 27/- (27.2%), per labourer.

Subsidiary occupations have gradually dwindled and very few occupations are left at present to supplement the wages which keep on falling every year. The total annual income of 35 families from such subsidiary occupations as (1) collecting and selling fuel, (2) fishing, (3) basket-weaving, (4) kamdari, (5) selling meat, (6) pan-bidi shop, (7) poultry keeping, (8) preparing charcoal, (9) preparing and repairing mattresses and (10) tailoring is Rs. 685/-. Annual total income of 27 families from animals is Rs. 381/-. The following table gives on idea of the income of these labourers.

ANNUAL INCOME IN RUPEES OF LANDLESS LABOURERS' FAMILIES

Agricultural Wages	Subsidiary Occupations	Income from Animals	Miscellaneous	Total
8,562–3 0	685	381	58	9,686-3-0
88.4%	7.1%	3.9%	0.6%	

The total population of landless agricultural labourers is 459 and the total annual income is Rs. 9,686–3–0. So the per capita income for a landless agricultural labourer is Rs. 21/- per annum or 11 pies per day.

Expenditure.—Family of a landless agricultural labourer has to manage everything within its meagre income. It has hardly any savings to fall back on. Neither can it get any loan except for special purposes such as marriage, death, etc. As there cannot be any provision possible in the current budget, labourers borrow that amount from somebody and repay it either by serving the creditor for the next year or by paying in instalments. If there is shortage of employment, these labourers really starve for days together or live on some cooked vegetables got from the jungles. Naturally, the main item in their expenditure is food and next come necessaries such as clothing, food, etc. The table below shows how these labourers spend their earnings:—

Food	Clothing	Habits	Special Purposes	General	Total
Rs. 6,784-1-9	1,469-11-0	396-14-0	307	728-8-3	9,686-3-0
72%	14%	4.6%	3.1%	6.3%	

Out of every rupee spent by a labourer 11½ as. are on food, 2¼ as. on clothing, 9 ps. on habits, 6 ps. on special purposes and 1 anna on general items.

A typical budget for a family of 4 members, according to the minimum standard of living, will be somewhat as follows :—

FAMILY BUDGET FOR A FAMILY OF 4 MEMBERS

In Rupees

Food	Clothing	Habits	Repairs	Lighting	Special Purposes	General	Total
54-0-0	19-0-0	10-0-0	5-0-0	2-0-0	5-0-0	10-0-0	105-0-0

Let us now compare this budget with that of Case No. 81 where there is a family of 4 members—husband, wife and two children:

FAMILY BUDGET OF CASE NO. 81

Food	Clothing	Habits	General	Total
40–0–0	8–0–0	3–0–0	4–12–0	55–12–0

This will show how the labourers lead an almost animal-like existence, half-starved, half-naked, exposed to disease and without any provision for the future. Even if we take the average income of a family which is Rs. 62-5-0

and compare it with the necessities of life which require at least Rs. 105/- we see that at most all the labourers are living much below the minimum standard required.

Upto the age of 5 both boys and girls do not get any clothes for themselves. They either remain without clothes or get old and worn out clothes from their older siblings. After 5 years the girl gets a skirt (parkar) and a bodice (choli), and a boy wears only one shirt. If possible a pair of each is prepared for the children. The dress of a man consists of a small dhoti, either a shirt or small piece of cloth (dupatta) used instead of a shirt. Formerly people used to wear turbans but now-a-days white caps are common among the younger generation. A pair of dhoti and shirts last for more than a year. Women wear coloured sarees of rough texture and cholis (bodice). Ordinarily a woman is lucky if she gets two sarees and two cholis to wear year in and year out. Otherwise she has to wear them for about a year and a half. They wash their garments daily, provided they have at least a pair of each. Old clothes are used as bedding and sarees and dhotis to be worn the next day are used as coverings (instead of blankets) the previous night. Thus the maximum utility is obtained from each clothing till it becomes completely useless.

Village Reconstruction

"In India there has not been a comprehensive survey of or handling of the rural problem as a whole. We need to get away from the lamentable fragmentation of effort which has resulted in a regrettably small result from the expenditure of public funds depriving the development movement of its effectiveness. The number of minor officials who now deal piecemeal with his problems, the villager cannot understand and often does not trust."[1] The Government has now realised the necessity of helping indirectly non-official bodies which can command the respect and confidence of the villagers. Non-official bodies in co-operation with several other agencies can take up a more comprehensive programme tackling every phase of life of an Indian villager. The District Village Uplift Committee has given recognition to the work carried on by the Servants of India Society by giving it an annual grant of about Rs. 300/-. The Society has been able to co-ordinate the following agencies for village reconstruction work with Shendurjana as the central unit: the District Council, the Central Provinces and Berar Red Cross Welfare Committee, Provincial Co-operative Department and other Government Departments such as the Agricultural Department, etc. These agencies are carrying on the work of village reconstruction in the following way:

Education.—There is a District Council Primary School upto Standard

[1] Hatch Spencer : *Up From Poverty.*

IV. As there is only a one-room building built by the District Council for the School all the classes cannot be accommodated in it. The S. I. S. has hired a house where a class is conducted. Two other classes are accommodated in the Musafirkhana. The need of local leadership, especially from the point of view of Welfare Work among women, was badly felt. In order to meet the situation, the S. I. S. helped one girl from the village to be trained in the Normal School at Nagpur. She is now appointed as a teacher by the District Council and has been able to win the confidence of the villagers and carry on the programme effectively, especially among women. The S. I. S. is attempting to turn this school into a vocational school with agriculture as a basic vocation. The Society is prepared to provide facilities for teaching other occupations such as handloom weaving, carpentry, poultry farming, etc. If this attempt takes a concrete form it will benefit the labourers a good deal. The book knowledge imparted at present does not help the labourers in any way. Unless arrangements are made to teach some crafts labourers will not send their children to school and deprive themselves of whatever small amount these children earn through agricultural labour. Only 8 children attended school at the time this survey was made.

Medical Aid.—The District Council has opened a cheap type dispensary at Shendurjana in the Red Cross Society's building. The S. I. S. has provided quarters for the doctor and the compounder. The doctor pays weekly visits to the neighbouring four villages. On the weekly market day people from different villages come for medical aid. During the year 1939-40 the total number of outdoor and indoor patients treated was 13,690.

Maternity and Child Welfare Centre.—The C. P. & Berar Red Cross Welfare Committee have constructed three buildings in Shendurjana. In the main building the Maternity & Child Welfare Centre is conducted. The Red Cross Society has appointed two Health Visitors at the Centre. Training classes for 'Dais' are conducted by the Health Visitors. There are 100 trained 'Dais' working in different villages and about 23 are under training. The S. I. S. bears the recurring expenses of the Centre and provides conveyance for the Health Visitor who visits the neighbouring villages daily and attends labour cases whenever called upon. There is one Maternity Home for the caste people and one for the Harijans. These Homes started by the S. I. S. serve as practical Demonstration Centres for the 'Dais'. Most of the cases are free of charge but a nominal fee of Rs. 3/- is charged to the people who can afford to pay it.

Financial Aid.—Two Co-operative Societies were started by the S. I. S. —the Crop-Loan Society for the landholders and one for the landless agricultural labourers. But the labourers were divided into two groups and they could

not take advantage of this facility. The S. I. S. may again help these labourers if they intend to have co-operative cultivation.

Demonstration Centres.—In order to encourage the villagers in general and the labourers in particular to start Cottage Industries the S. I. S. is running three Demonstration Centres where people who wish to start subsidiary industries like weaving, carpentry and poultry farming may come and learn these occupations. One experimental farm has also been started. The main idea of having all these centres is to train the school children for certain vocations. Radio programme attracts the villagers in the evening. At the same time a reading room is kept open for the public. The S. I. S. also maintains the Post Office by paying the deficit every year. The Post Office serves about 12 surrounding villages on the market day. Other types of recreational and social programmes are also arranged by the S. I. S.

The needs of the agricultural labourers are greater than those of other communities as their problems are intimately connected with the problems of untouchability, most of the labourers being untouchables. Therefore the S.I.S. has started its Reconstruction Centre in the labour locality and has succeeded to a great extent in winning their confidence through personal contact. Once the people are confident about the work done by outside institutions it is easy to get their co-operation. They themselves take the initiative in some of the activities now and we may hope that in the near future leaders from among the people will come forward to help their unfortunate fellow-beings out of their difficulties.

NOTES AND COMMENTS

THE Eighth Annual Report of the District Probation and After-Care Association, Poona, for the year 1941-42 shows that Probation Work and Child Care have not taken a permanent place in the programme of welfare work in the Bombay Presidency. It is not easy to make important changes and improvements during war time. Nevertheless, the Report is an example of steady work done on systematic lines as laid down in previous years.

For successful prosecution of a complete programme of probation work the co-operation of the public and the police are imperative. The Association has done spade work to explain to the public the nature of the work done, but a good deal more of continued propaganda and publicity are needed if the public are to come forward to expose the exploitation of children which is so rife, especially in the cities. The report says that a good deal more of police co-operation will be necessary if the aims of the Association are to be fulfilled. The present type of organisation of the Police Force and its methods do not happily blend with those employed by the social workers entrusted with child care, and yet senior police officers could do a good deal to humanise the police system and make the members appreciate and understand the importance of bringing light and happiness to children, who are mostly innocent of crimes and who are mere victims of home and environmental conditions.

It is unfortunate that the Association has not yet put up its own Remand Home for Boys and Girls. Such an Institution is very necessary to make its work really effective.

HOME FOR THE HOMELESS BOYS

A HOMELESS and dependent child is one who through no fault of his own has lost his natural support and must depend upon the public for the necessaries of life and for such upbringing as current standards require. Three distinct types of assistance for dependent children—institutional care, aid to dependent families and placement in foster homes—are now in common practice in progressive countries like America. For certain types of children institutional care is considered best. Essentially, the natural place for the child is in the family home under the protection and care of the parents. As family home life is the normal condition of childhood, the child should not be separated from his home because of poverty alone. Where poverty is the

cause, the system of maintaining children in their own homes by means of public assistance to the family is now recognized as the best method.

Where such removal is necessary for other causes or if the child has no such home, it is the simplest step in reasoning to argue that the next best thing for such an underprivileged child is some other family home that will give him kindly upbringing. Hence the method of placing children in foster homes is coming to be recognized as one of the best methods of caring for dependent children.

But in India the common practice is to take care of the orphans and destitutes in institutions. And there are many such run on sectarian lines. There are some which are open to all dependent children irrespective of caste, creed or race. The Calcutta Homeless Boys' Home is one such. Though it is a small home, its work is well planned. It gives general as well as elementary technical education. It gives shelter to the helpless youngsters whether employed or unemployed. Though it accommodates only about fifty boys and is run most economically yet it does not seem to receive the financial aid it deserves.

Calcutta is a large city and its problem of child dependency must be great. It is desirable therefore to bring all institutions with similar aims and objects under the direct management of a single Society recognized and aided by the State. The care and treatment of dependent and neglected children is the field of greatest promise for remedial and preventive social service. The welfare of society hangs upon the well-being and the potentiality of children. The child is the ward of the State and conservation of childhood should therefore be its first concern. The programme of such conservation should be country-wide and in charge of a department of public welfare.

ADULT EDUCATION

THE problem of adult education in India received a good deal of attention when the Congress Governments were in power in the majority of the provinces. In India adult education programmes follow two main directions. On the one hand there is an attempt to increase the percentage of literacy; on the other hand, attempts are made to provide University extension lectures to those who cannot afford or who are not fortunate in receiving college education. Adult education presents very complex and difficult problems and requires far more systematic and scientific approach than has been the case up to now.

A recent pamphlet, "Suggested Studies in Adult Education", published by the Institute of Adult Education, Teachers College, Columbia University, New York, 1942—though brief and concise in its contents—gives a very good

idea about the fundamental consideration and planning of adult education before efforts are translated into action.

The Institute of Adult Education came into existence in 1941. It was a part of the Teachers College at Columbia, and it was entrusted with the task of "conducting an intensive study of the opportunities, problems, materials, and methods of adult education, and for assistance in the training of leaders and workers in the field". The Institute further contemplated a programme of basic research along sociological, psychological and educational lines.

This Institute is a central body for the purpose of conducting research and of guiding and training the leaders of adult education. It cannot be denied that in spite of the complexity of the problem in India on account of the existence of many languages, a central body of experts is necessary to act as pioneers and determine the best methods that will contribute to the spread of knowledge and literacy, and the increase of intelligence amongst the people of India.

It is unfortunate that its work, which we should have liked to follow with great interest, has to be postponed for the duration of the war as it has now to study the problems of adult education that are closely related to the successful prosecution of the war. However, the small pamphlet is adequate at least to show the manner in which the problem has to be tackled in this country. If during the war and in the absence of popular ministries it is not possible for the governments concerned to organise a systematic approach to the adult education problem, it is quite possible for the educationists and the public to devise better ways for serving the most urgent cause that will help to uplift the country, and prepare it for the efficient performance of important national tasks.

The pamphlet makes several interesting suggestions regarding fundamental problems like the production of printed materials for adult education, including a manual for teachers and several manuals at different levels for students, materials for discussion, illustrations and pictorial representations, cinema lectures, etc. The adult education drive that was carried on in Bombay demonstrated the complete lack of preparedness in these directions so far as local conditions were concerned.

More instructive are the references to the administration of adult education, even though these are in the nature of questions that the Institute evidently desires to answer in detail later.

The American view of adult education covers a far wider panorama than is permitted by the circumscribed Indian hroizon. It includes education in arts, consumer education, family education, health education, museum education, music education, political education, radio adult education,

recreative education, religious education, vocational education, and a host of subjects so intimately connected with human life.

An interesting revelation of the pamphlet is the fact that the initiative for adult education is neither left to a few societies created for the purpose nor is it wholly entrusted to the State, but the initiative is taken by all sorts of educational, religious, economic, political, welfare and other agencies that include adult education as a part of their programme. Such a widespread recognition of the need of adult education speaks of an awakened public consciousness which has yet to be created and developed in our country. We have not yet touched the fringe of an adult education programme. There is a lack of leadership and a dearth of teachers. Plans and methods have yet to reach maturity. There is a vast population to be dealt with, especially in the villages. In spite of the war, let us hope that adult education will receive due attention especially from the owners of industries and the rural development department, and that a large number of public agencies catering to human welfare will introduce adult education as a part of the programme.

A vital need is the creation of a central research and directive organisation for the whole country which can provide a meeting place for all thinkers on adult education problems and a laboratory for active workers who mean to devote their time and energy to the intellectual awakening of the masses of this country.

PUBLIC HEALTH AND INSURANCE COMPANIES

THE problem of public health, although most acute in our country, has not attracted the attention it deserves due partly to its magnitude and partly to the indifference of the State. Local institutions and private charity have but touched the problem on the fringe. Even the Life Insurance Companies, though they are essentially concerned with and interested in the health of the people, have not realised the great role they are capable of playing in the improvement of public health. It is therefore encouraging to note from the literature received by us from the Trinity Mutual Assurance Company, Limited, Bombay, that it has before it an ambitious but nonetheless practical Health Conservation Scheme to be carried through with the co-operation of not only the other Insurance Companies but all those associated with Insurance, shareholders, policy-holders, field-workers, etc.

It proposes to convene several conferences—of Medical Officers, Shareholders, Journalists, etc.—to formulate various schemes and to instruct the policy-holders as well as the general public in the canons of public health. But by far the most important item in its programme is the establishment of a National Health Council to advise, collaborate and co-operate with the

existing public health authorities. Among other things, it shall encourage and assist in the organization of Health Weeks, and form Health Contests, Health Clubs and Establishments, arrange for the provision of medical hospitals and maternity facilities to all towns and villages, encourage and supervis research in nutrition and dietetics, collect and disseminate information and knowledge regarding epidemics, health activities, etc., and try and legislate for compulsory life insurance benefit to all labourers. These are steps in the right direction. Every such enterprise to promote and preserve public health is a laudable one and deserves to be encouraged.

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BOOK REVIEWS

The History of British Civilisation. By ESME WINGFIELD-STRATFORD. London : George Routledge & Sons, Ltd., 1938. Pp. 1335. 16sh. 6d.

In the most critical year of the World War II an interpretation of British Civilisation by an English author is bound to prove at least of academic interest. Beginning from the Stone Age, the Author published his First Edition in 1928, and 1938 has seen the fourth print of the Second Edition. The work deals with events upto 1914 only. Esme Wingfield-Stratford, the author of the book, is an Ex-fellow of King's College, Cambridge and his voluminous work, which could have been written in fewer pages, speaks with the Cambridge accent and outlook. In the prologue, the author says that the task of the historian is "to tell the whole truth—and nothing but the truth." Though throughout the work he has shown a comparatively balanced outlook and his presentation of British History is not so prosaic as it used to be, he at least shows that however sincere a historian might be, it is not within his powers to arrive at the whole truth. History, if it is to be a record of truth, should be able to record the pulse of thoughts and emotions of the millions who rarely have the opportunity to start upon the stage of life, and be fortunate enough to draw the attention of the scholastic historian.

It is not possible to review such an extensive work in a few pages, but some of the ideas of the author on fundamental issues of history are very interesting. For example, discussing feudalism, the author suggests that "the modern joke that an Englishman loves a lord was, in those days, sober truth". "Regarded from the standpoint of feudal law, the lord was the owner of all the land and the master of all its inhabitants; from the standpoint of what we may call community or folk law he was in the position of a highly paid director who was also the largest shareholder in the company." The failure of feudalism is contributed by the attempt to put the estate of the lord over patriotism.

The Anglo-Saxons are a patriotic people, and the author locates the seed of British patriotism in Wales. "Wales has all the tenacity of life that springs from a low grade of organisation. She had the advantages of ambush and evasions afforded by her mountains, and she had, besides, a pride of race and tradition." The seed of patriotism grows into the tree of the Magna Carta and the author is elated by the statement "To no man will we sell, to no man will we deny or delay right of justice". It is only in the latter pages

of the book that we have to notice how the British people lived up to build a future on such a magnificent foundation.

The author's version about how England after Runnymede became a nation will prove of interest to many Indians. "As early as Henry II Englishmen were beginning to think of themselves no longer as a conquered but a conquering people, sons of Britons and countrymen of Arthur." And yet these people were not united.

When Oxford draws its Knife,
England's soon at strife,

is but the beginning of the blood that was to flow between the North and the South and the West, and between Church and Church in the name of Christ. The chapter on "Church and the Nation" shows how religion raised its head in the heart of politics. The year 1295 becomes a turning point in history. Discussing King Edward's attack on Wales, the author suddenly writes in a prophetic vein. "It is among the first requirements of statesmanship to gauge, as exactly as possible, the amount of effort that a community is able to put forth without exhausting its strength. Are the resources of England equal to the task of fighting Bolshevik Russia, or undertake the defence of Singapore?" he asks. Edward crushed the Welsh people, but in a hundred years they rose up again "in one wild passion of rebellion". The historian thus gives his verdict. "To make a formal conquest of a Celtic people is a very different thing from subduing its natural spirit." The march of conquest goes further even to France, and patriotism is at a premium, but this patriotism does not meet the approval of a modern Cambridge author. He says, "The patriotism thus engendered was not of the kind that tolerates or respects other peoples. On the contrary it took the form of an intensely arrogant collective egotism."

The rise of capitalism begins under Edward III, under the influence of guilds, who start financing kings when they were no longer financed by the money-lenders from the continent. "The twilight of the middle ages" and "the waning of Christianity" begin almost at the same time and the peasant revolts follow suit. These preceded "the Protestant Civilisation".

New learning, new men, new outlook, the passing of custom, the origin of capitalism, "Within one room both large and big, there stood two hundred looms full strong",—this is how the author introduces the reader to the beginnings of the Protestant Civilisation. "Slowly, advancing and receding like the tide, comes on this new order of capitalist industry, a state of things in which hoarded power, as abstract and impersonal as a mathematical symbol and as fluid as quick-silver, comes to dominate all."

The chapters on Christian Reformation are an impartial statement of facts that put forward the case of the progressive movement. The decay of

Roman Catholicism is mildly pointed out; Henry VIII is championed as a patriot who "might burst the bond of Rome, but not for one moment did he attempt to burst the bond of the English Constitution". Henry VIII brought about the union with Wales, he made England strong and united, but he was also responsible for the rise of the social aristocracy that accompanied the beginning of capitalism. "A lord is now a being of nobler clay than a ploughman"; these words suggest the beginning of "real social contempt and superiority" which eventually led to the rise of men of great riches, often plundered, "who succeeded in obtaining monopoly of power, now that the church was conquered and the strong king dead".

Like many other English historians, the author is a great admirer of the Elizebethan period and in her he finds "the only woman in history who could have pulled the country through". And yet it is in this same glorious period that there appears the chapter on "the Tragedy of Ireland", with the pertinent remark: "Englishmen who wish to cure themselves of any undue tendency to national arrogance can hardly devise themselves a better penance than a perusal of the history, the real history, of England's dealings with Ireland". After this wise assertion there is an attempt to shift at least some blame off the English shoulders, and the author is not willing "to depict Ireland as a hero-martyr among nations and England as a black-hearted and calculating villian." In true historic tradition the English author refers to "the curse of Irish history—their fundamental indiscipline—has made Irishmen not only the most difficult of people to deal with, but has also contributed to their fatal incapacity for combining among themselves." To India these are familiar words, and if history repeats itself so often in the pages of English experience will it not be better for British authors to seek a more relevant reference to some cause of English history and note their own fatal incapacity to realise the fundamental unity that has existed in all countries except when disturbed by causes that need analysis? The author, however, has done full justice to Ireland in his chapter on "The Enslavement of Ireland", and the condemnation of English politics and methods is complete.

With the collapse of the Tudor regime, and after the crown had lost prestige, the author traces the "impulse to expansion overseas to no government or sect but to a natural and spontaneous impulse in the heart of the nation." "It is by a series of experiments by which England blundered into the beginning of her Empire." And with this beginning of Imperialism, Monarchy with its Divine Right ceases to exist and the role of the Oligarchy begins, brought about by a temporary union of Whigs and Tories.

As English history enters the threshold of the period of the French Revolution, the author is responsible for giving the reader some of the best

chapters of the book which show a new interpretation of history. The pages on "The Spirit of the Laws", "The Cultured Minority", "The Mob", and "Rule Britannia" sum up a most witty criticism of the British civilisation of those days. "It was a time when the majority of Englishmen were profoundly satisfied with themselves and their country. Never had there been so much cant and talk of patriotism, and its shameless abuse led Doctor Johnson to describe patriotism as the last resort of a scoundrel." After nearly two hundred years of experience in Empire management, the author records that in this 18th century England did not "show any measure of fitness for the vast responsibility of a world-wide Empire". It is on such degeneracy that the author finds the rise of an "emotional dawn" and the sinews of progress in Industry and Science.

As the book is dealing with British civilisation, perhaps the author can be excused for dealing so little with American Independence in the few pages on "the loss of an Empire". Perhaps the loss could have even been avoided "but England did not fight like a nation that means to win". India is more fortunate in receiving better attention and the author turns "from one western Empire, which we could not keep, to that greater Empire in the East into the lordship of which the force of circumstances and national character was driving us, half against our will." It will interest Indians to know the viewpoint of a historian of British civilisation of our own achievement in history. The author shows a lamentable lack of interest and knowledge in a people who live so far away from him. He more or less trots out the arguments of Katherine Mayo in a more dignified language. For example, dealing with our idea of government he says: "If a Mohammedan Akbar, or an English Victoria would undertake the business, he had no special sense of grievance, provided he was not troubled in defiance of all custom and precedent." It was on the basis of such mistaken notions that Queen Victoria laid the foundation of the Indian Empire in 1857. Burke, who impeached Warren Hastings, is called a true child of the "Emotional Revival." He judged Hastings uncharitably, and therefore the author justifies his passing the same judgment on Burke.

Passing to the most important period of European History, the French Revolution causes the author to explain the "Non-revolutionary Englishman". The English peasant did not rebel against the Squires because "this lord is at law with his vassals" and because "this squire works with his labourers, and this Duke plays cricket with his gardener", Another reason is given in the pages of "Constitution versus Revolution" in which Burke and Thomas Paine frightened "respectable peoples out of their wits with anything remotely democratic".

Writing on the French Revolution, the author believes that the Republicans could have been easily beaten, they had everything against them, "but they had behind them what their enemies as yet lacked, the impetus of a great idea, and that was decisive. It was hard to beat troops who, when routed all along the line, could be rallied to victory by the mere singing of Marseillaise." The author also feels that moral force was on the side of the revolution. The official mind of England, led by Burke's thinking, induced the country to join hands with the despots, but the people of England were lukewarm, and the fruits of a "half-hearted and absent-minded war were bitter". After the French Revolution England took up arms against Napolean, but the ordinary Englishman regarded the war "with the detachment of a spectator. His battles were fought by professional armies on alien soil." The war against Napolean was not over, when England began importing cotton and laying the foundation of the Industrial Revolution. The war was at last won by Wellington who led "the worst army he had ever commanded". With the fall of Napolean, "the League of Despots" came into being and the majority of readers will not be in agreement with the author regarding the part played by England "in torpedoing" this concert that was organised to bring lasting peace to Europe. Evaluating the wars with Napolean the author bluntly puts it thus "We have a right to be proud of the bravery of the British and Irish poor we hired to fight our battle, ... but it would be well if we were also to regard the sum total of all this butchery and squalid horror, . . . "

The Industrial Revolution, instead of mitigating these horrors, brought in the most ghastly tortures of exploitation and child labour which are vividly described by the author. And yet once again the author attempts to defend the leaders under whom such system flourished. "The Tory ministers who were now so ensconced in office that it seemed that nothing short of a revolution could unsettle them—were these men king devils of the Hell that was England, selfish and cunning tyrants whose one object it was to maintain themselves and their class in power and luxury ?" asks the author; and to this he replies "conscientiously, they performed their duty as they understood it. The country was seething with unrest and their excited imagination was being worked up by agitators for a revolution. They therefore felt themselves constrained to strengthen their hands by maintaining the conditions of martial law in time of peace."

These conditions provided the soil for a New Toryism and Socialism, under men like Peel and Robert Owen, whilst similar conditions in France brought about the second French Revolution and the revolt in Belgium. Riots in England followed in quick succession, but the threat of revolution passed away resulting in the triumph of the bourgeoisie, and "the mob was left

to discover at leisure for whom it had pulled the chestnuts out of the fire."

As Industrialism triumphed and steam, railroads and steamships brought wealth to England, she created her second Empire out of the indomitable will and adventurousness of the people, and the command of sea power. Missionary and commercial activities, followed by armies and treaties, brought Africa, Australia and India under the British flag. Describing the missionaries, the author says, "These good men . . . . were no doubt responsible for an immediate amount of harm, and they were at least partially instrumental in bringing about those two chief Imperial setbacks of the nineteenth century, the great Boer Trek and the Indian Mutiny. Their brains were often as small as their hearts were big; they were guilty of such absurdity as the forcing of European clothes on the natives of tropics, and with childish intolerance they would misrepresent, (and still do, to judge by certain of their publications) often in survilous terms, such venerable faiths as that of the Hindus."

The chapter on "Bureaucracy and Mutiny in India" does fair justice to this country. The author, whilst counting on his fingers the old advantages this country received, recognises that "If India was opened up by the new means of communication, it was largely for exploitation by British capital." He agrees that the railways were a drain on our finances. The Mutiny is described without emotion. The author's analysis of bureaucracy is thorough and far-reaching. He describes it as "a soulless thing working by a complication of rules crushing out imagination and individuality." His description of the bureaucracy is still more real and he reveals that there are at least some Englishmen, liberal though they may be, who are able to see things in their proper perspective. From the Mutiny in India, the pages wend their way into the darkest hour in Ireland. These pages are full of anguish and depict the feelings and sufferings of the Irish people with sympathy, and describe the rise of the Young Ireland Movement.

The rise of Germany after the French Revolution of 1848 under Bismarck and the military philosopher Clausewitz, aided by Moltke and Roon, aiming at German unity and German efficiency begins a new period in European history. England quietly stood aside when German armies marched through Paris, and this neutrality the author avoids to explain. The rise of armed Germany led to an armed Europe, it was the end of emotionalism and romanticism, it was the birth of stark realism which England could only watch, and where England could not lead either under Tory or even under a Gladstonian Liberal rule. The author does not admit it, but the Revolution of 1848, the rise of Prussian Militarism, or the appearance of Karl Marx did not affect, or was not allowed to affect, England, and hence initiative and leadership from now on passed out of the hands of complacent Victorian England.

What was true in politics, was also true in the industrial world. Under Disraeli England passed to a new Toryism, a well defined Imperialism and a mere vision of Anglo-Saxons spreading themselves over the earth. From Disraeli to Kipling and thence to 1914, the author passes quickly. A hundred pages deal with the last phases of British Imperialism, its founders, its methods and its achievements. The pages reveal a mild pride and exultation, extensive quotations from Kipling's statements of facts with little criticism and hardly any condemnation. The History of England from 1860 to 1900 is nothing but the history of British Imperialism, of the struggle in Africa and the expansion in Egypt, and of the struggle with the Boers. During this period the author recognises "that whereas the prosperity of the capitalist class continued, on the whole, to increase, that of the wage earning class did so no longer but probably to some extent declined." As an antidote to this comes Karl Marx and the author gives a brief, but unprejudiced analysis of his principles. Socialism does not appeal to England and "The First International quickly flickered out, and socialism was hardly enough thought of to provide a joke or a bogey." The story of British socialism, told in a few pages, from the Fabians to 1914, is a story of meek idealism, tame strikes, and some achievements.

To Indians, the chapter on "Bande Matram" will be interesting. It is the story of India from Gladstone to 1914. The story is told in the usual sympathetic phraseology of an academic professor of history. Many pages are devoted to Indian spiritualism, the origin of the Congress under English leadership is mentioned, and the social problems and communal disharmony are pointed out. The author admits "the policy of the government to divide and rule, relying particularly upon Mohamedan loyalty against Hindu unrest."

The last three hundred pages on the whole compare unfavourably with the rest of the book. It almost appears that the author is unable to grasp the rapid speed of events between 1900 and 1914. The greatest upheavals in the world of thought, politics and economics are missed and the book closes with a tired note that breathes more or less of a decline of British civilisation. (There is no explanation about the author's sudden end of a history in 1914 when his book is published in 1938, after 24 eventful years.)

On the whole, the Englishman seems to be so engrossed in his own England, and his world perspective is so dominated by his own achievements, that he fails to realise the real role his civilisation is playing in the midst of a greater world civilisation. After the Industrial Revolution, and after 1870 and Victorian England, the decline of British civilisation is so evident in the fields of philosophy and industry, and political thought and government. Achievements on the fields of battle and the laboratory are mediocre, and the

reader is only compelled to read a story of interesting developments from the early days of Normans and Danes to the end of 1918 as a story of Kings and Parliaments, conquests and adventures, which built up a loosely cemented Empire in which forces of disintegration are more evident than the achievements of unity of purpose and idealism.

The Agaria. By Verrier Elwin. Foreword by Sarat Chandra Roy. London: Humphrey Milford, Oxford University Press, 1942. XXXVI+292 pages, 36 illustrations, 44 figures in the text and 5 maps. Rs. 12-8.

Verrier Elwin's book on the Agaria, the aboriginal iron-smelters and blacksmiths of the Central Indian belt, ranks among the most important contributions to the ethnology of this country. It pictures an ancient village-industry in its social and mythological setting and describes the psychological reactions of primitive craftsmen to the changes which in recent years have revolutionized rural economy. The Agaria, who appear to be the descendants of the legendary Asura, are scattered over a large area extending from the Central Provinces to the Ranchi and Palaman Districts of Bihar. Though they live everywhere in symbiosis with either aboriginals such as Gonds and Baigos or with Hindu populations, they have preserved a distinctive social organization characterized by totemistic exogamous divisions, and an extensive mythology which explains and sanctions every phase in the process of working iron and forms, in Elwin's words, "the root and life of the religious and economic structure of Agaria society". It is mainly due to the legacy of their myths and legends that the Agaria consider their craft not only as the means of earning their livelihood but as a sacred vocation and mission; "they believe that they were put into the world to do iron-work and that it is dangerous and futile for them to leave it." But inspite of this emotional attachment to their ancient craft many Agaria have been forced by economic necessity from their furnaces and smithies, and these lead to-day the precarious existence of agricultural labourers.

For the student of social science and chapters on the Agaria's income and expenditure and on the decline of their industry are of particular interest. Elwin has made intensive inquiries into the earnings of the Agaria in various districts, and those familiar with the difficulties of assessing the budgets of a population relying mainly on barter will appreciate the labour involved in this investigation.

The rise of great modern mining and steel industries in India has not relieved the distress among the old iron-smelters, since only an infinitely small number of the widely dispersed primitive craftsmen found employment in these new enterprises. To most of the iron-smelters the decline of their old craft

has meant not only impoverishment and the loss of economic independence, but also the collapse of their social and religious institutions. For as the fire burns down in their furnaces, so dies the cult of their gods, and the traditions and myths that have inspired their lives lose the vitalizing force.

All those who know India's aboriginals and have witnessed the cultural stagnation following the break-up of their traditional economic systems and the disappearance of the crafts that lent distinction to their peculiar cultures will agree with Elwin when he deplores the decay of the Agaria's iron-industry: "The collapse of the cottage industries of India is one of the most disastrous results of that great country's contact with the industrial world. The death of material culture brings idleness, dullness, immorality and hunger. Compare the ordinary Indian village with the peasant communities of Africa and the South Seas, in the former is dirt, drabness, mediocrity, in the latter, life, colour, movement, variety, the strong excitement of creative work. In this general decay of simple useful arts which made poor people happy, busy, and prosperous, there is none more tragic than the collapse of the village iron-smelting industry."

If the ancient village-industries of India are to survive, detailed inquiries into the craftsmen's needs and the study of the potentialites for improvements of their technique are indispensable for the guidance of governments and private bodies in all attempts to support and revive the old crafts. Elwin believes that expert instructors could greatly enhance the efficiency of the Agaria's methods and thus help them to hold their own in competition with factory iron. By such assistance and the reduction of taxes it may be possible to arrest a process which in other parts of India has already led to the extinction of the smelting industry.

C. VON FURER-HAIMENDORF

Planning for America. By G. B. GALLOWAY AND ASSOCIATES. New York: Henry Holt & Co., 1941. Pp. 713. $4.00.

As the war uproots the functions of the old world, it leads thinkers of many nations to plan the future on a more scientific basis. America, next to Soviet Russia, plays perhaps the greatest role in the making of a new civilisation, and on the whole being mainly removed from the theatre of war, she has the best opportunity to give quiet thought to planning. Besides, America in the pre-war world can be said to have reached the highest mark of prosperity and industrial and scientific progress, and therefore it may be reasonably expected that she is more competent to plan than any other country.

The book is written in seven parts: 1. Nature and psychological aspects of planning. 2. Planning of raw materials. 3. All other aspects

of economic planning. 4. Social Planning. 5. Area planning—national, regional, state and local. 6. Planning for defence. 7. Miscellaneous.

The scheme on the whole is sound so far as the division of the major problem of planning into sub-divisions is concerned, but our attention is mainly drawn to the lack of emphasis on political planning. The entire planning for the future is based on the acceptance of thirteen fundamental assumptions which were accepted by all those who have contributed to the plan contained in the book. The thirteen assumptions are generally based on a proper understanding of existing American trends—curiously enough only political and economic—recognising the inherent defects of capitalism. The three most important of the thirteen assumptions declare (1) "that private enterprise must be stimulated and public enterprise must be expanded to take up the slack in employment;" (2) "that we must streamline our government and put a sustaining economy beneath our political structure if the America of To-morrow is to remain democratic;" and (3) "that regardless of fluctuations in party politics, the government will steadily extend its control over the machinery of investment and credit, the management of basic industries, the distribution of the labour force and the direction of foreign trade."

The assumptions, fundamental as they are, reveal the minds behind liberal planning based on compromise and the principle of modification and continuity. Planning has different meaning for different peoples, and therefore the author defines it as "merely a process of co-ordination, a technique of adopting means to end, a method of bridging the gap between fact-finding and policy-making." It is the opposite of improvising.

The book therefore starts to plan American life in no radical manner. It is scientific so far as it serves means to an end, and not ideals. The authors recognise that the "forces that have been gathering speed for seventy years have exploded in our time in a world wide revolution"; but the planning that is suggested at the end of the greatest revolution in world history does not rise up to the necessity of facing forces that are likely to be present when the war is over.

The fundamental principles that guide this planning are mediocre and materialistic. They want "to avoid competing ideologies and alienisms". The plan is merely meant to support a decent and healthy level of life. In this matter "what touches all, must be decided by all". The authors seem generally to accept the principles laid down by G. D. H. Cole in "Economic Planning", and by Eugene Stanley in "Economic Planning and Free Institutions". To these principles are added others of scientific management which are always so typical of American economic life.

Mentioning the innumerable state, public and private agencies for

planning that exist in America for geo-physical as well as socio-economic planning, a healthier and a more universal co-ordination under a centralised body is suggested. Under such a scheme Direction and Policy come from Washington, administration is decentralised in states and regions, and execution and operation are reserved for local bodies. The methods of planning suggested in the book are interesting. The authors give a typical State Master Plan and a National Production Plan.

The chapter "Land Planning" suggests basic issues of land policy and suggests ways of economic classification whilst theoretical discussions on the political aspect of land possession as private property are avoided. Further chapters deal with the planning of water resources, energy resources and the organisation of scientific resources. Inventions and technology play an important part in the suggested American plan.

An important aspect of any economic plan is the method of obtaining finance for the execution of the entire plan. This is done by "planning of savings and capital formation to achieve and maintain a high level of national income" at the same time preventing unemployment. The concentration of personal incomes and busines profits, heavy taxation, and institutionalisation of savings are recommended.

The planning of employment in a capitalist society of the above type is bound to be difficult. 53,000,000 persons including 13,000,000 women are gainfully employed in the U. S. A. "and of these only 10,000,000 are self employed and the rest work for hire." The burden of planning employment is thrown on the employers, modified by the activities of Trade Unions. The authors, however, accept the principle of State interference, mentioning that the results of New Deal methods to redress the ills of the free competitive system are problematic. The unemployment problem seems to baffle the authors. They mention that "the most terrifying illogicality that we have always lived with is the existence of unemployment and poverty in the midst of plenty and the desperate need of millions of our population for the elemental goods and service necessary to maintain life on a decent level". To overcome this situation efforts have been made by government, but however well intentioned " they too are the result of only finite wisdom" . . . "and experience will dictate the need of persistent modification of present methods".

As unsatisfactory as the suggested solution of unemployment, is the treatment of the problem of income distribution and consumption. As a fundamental principle, the authors want to maintain the families in their present income levels. In a programme for a new world after the war, we yet read of "Relief payments, work projects, farm programmes, social security assistance grants and labour programmes, to increase low incomes". American

thinkers seem to be planning hard to maintain the status quo.

The chapters on public works planning, transport, population policy, improvement of nutrition, planned housing, education, health and recreation will be more useful to the Indian reader who is unaccustomed to intricate problems of planning. On the whole, these issues are less fundamental though in no way less important, and they are dealt with in a disinterested manner.

The closing chapter "Next Steps Forward" give the general measure of the whole book. Mentioning fifteen major trends of American life, amongst others the authors recognise (1) the trend to action in the face of mass emotion and frustration, (2) the change in the scope of the executive, legislature and judiciary, (3) the extension of the sphere of government, (4) the increase of associate action, (5) the concentration of political and economic power, (6) the conception of property and control as trusteeships, (7) the use of war as an instrument of national policy, (8) the growth of top-heavy and uncontrolled bureaucracies and (9) the suppression of creative and critical opinion. On the whole these are all totalitarian tendencies, and it is against such that the plan of the book appears. It is suggested that "the crucial factor in the defence of a nation against possible foreign aggression is precisely the same factor as that needed for achieving the purposes of a democracy in times of peace." To face this problem the following ways are suggested: (1) encouraging a revival of the spirit of enterprise in American industry and preventing the mental paralysis left by the impact of the war, (2) planning fiscal policy to avoid post-emergency deflation, (3) avoiding a post-emergency unemployment crisis by an expansion of public investments in public works and social services, (4) inaugurating a capital credit banking system, (5) relieving a prostrate and impoverished Europe and (6) "*in the interest of American economy* to help revive the economy of Europe in order to recover foreign markets for our exports surplus".

Discussing the fate of the whole world the authors discuss five major possibilities: (1) a stalemate, with half the world with goods and the other half starved out; (2) a German victory leading to the domination of a master nation in each region—Germany over Europe, Britain over the remnants of her Empire, Russia over western Asia, Japan over East and South Asia and U.S.A. over the western hemisphere; (3) "international liberalism" under a British victory; (4) American self-sufficiency and (5) the hope that "U.S.A. might inherit the British Empire in the event of a British defeat". These are the alternatives, it now appears, that will face the world after the war. Liberal opinion in England is working for Anglo-American co-operation—our national interest would seem to live in some combination of, or compromise between "the third and fourth lines of action".

Amongst the guiding principles for a Durable Peace appear (1) a dictated, not a negotiated peace with the complete disarmament of the aggressor nations, (2) peace based on "overwhelming power behind law", (3) the new world order based on justice, security, stability, law and human freedom, (4) terms of peace based on federation in government and autonomy in society and culture, (5) international economic planning of raw materials, industries, foreign trade and investment and for the rational distribution of resources, (6) protection of religious and racial movements, (7) all round reduction of armaments, (8) establishment of democratic processes, (9) guarantee of employment and social security and a world without the proletariat and (10) a beginning made towards creating world citizenship through surrender of national sovereignty.

The authors also mention eight points of British War Aims forged by a Post-war Reconstruction group. The eighth aim states: "In the case of the dependent colonies the creation of a new status—politically by making their administrations answerable for their trusteeship to a suitable international authority, and socially and economically by providing the technical and financial resources to ensure their more rapid development."

Concluding the book, the authors confess that "it is hazardous to construct designs for a new world order . . . . Positions taken to-day are rendered untenable to-morrow by the surging sweep of events."

On the whole, except for a vague glimmer of idealism at the end of the book, the plan suggested appears to be thorough in construction and mediocre in conception. This kind of American planning, based on the decayed foundations of an order that has created world catastrophe and calamity will fail to win the appreciation or approval of an awakened and sorrow-stricken world. The book clearly demonstrates the appearance of a new and fundamental problem: To whom should it be left to plan the future of human civilisation? Mr. Galloway and his associates may be fit to plan, but the lack of idealism, vision and imagination to conceive a world bound by close international links of understanding and commonsense, without the domination of fear and exploitation, is lamentable.

B. H. MEHTA

MOBILIZING SOCIAL SERVICES IN WARTIME: A Symposium. Ed. by J. M. Kumarappa. Bombay: Research and Publications Department, The Sir Dorabji Tata Graduate School of Social Work, 1943. Pp. 160. Price: Cloth Cover Rs. 3/8/-, Paper Cover Rs. 2/8/-.

Although the imminence of war has somewhat receded from the frontiers of India, this little book comes out not a day too soon. The title should

not mislead one into the belief that it merely is education to meet wartime needs. Rather, every writer shows how a temporary war emergency may be transformed into permanent post-war reform. The book deals with such important subjects as Family Security, Food Situation in India, Planning Nutrition, Refugees and Evacuees, Civilian Morale, Public Health Services, Industrial Welfare, Social Hygiene and Defence Forces, State and Social Services, etc., and the contributors of the different chapters are all leaders in their respective fields.

Under modern conditions there are three groups of people engaged in working for the war aim: the producers, the fighters and the entire civilian population. To maintain a high level of national efficiency in wartime it is necessary to concentrate on the welfare of each of these three groups. While enough thought is being given to external defences, internal services are not receiving adequate attention. The purpose of this book is therefore to create public opinion and to stimulate the Government to put forth a well-organised and effective effort to meet the menace of total war and to help the social services in the country to coordinate their efforts so as to form great arsenals of morale.

Altogether a stimulating book, it should find a good and ready response from all those who are interested in the social and political affairs of this land.

A. J. DASTUR

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